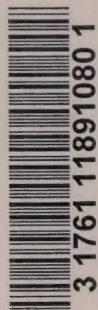


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Transportation Organization in Metropolitan Toronto

Background Report

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THE ROYAL COMMISSION ON METROPOLITAN TORONTO

TRANSPORTATION ORGANIZATION IN METROPOLITAN TORONTO

APRIL, 1975



PREFACE

This study is one in a series of background reports prepared for The Royal Commission on Metropolitan Toronto, designed to provide the public with an appreciation of Metropolitan Toronto and its government, prior to and during the public hearings. A full listing of the background studies appears on the inside back cover of this document.

Any opinions or views expressed herein are those of the consultants and are not necessarily shared by the Commission.

TRANSPORTATION ORGANIZATION IN METROPOLITAN TORONTO

A description of how transportation planning and operations take place in the Metropolitan Toronto area with reference to the relevant governmental and operating agencies and their enabling legislation.

This report was prepared by Juri Pill and Richard Soberman on behalf of the Ontario Transportation Development Corporation. It draws heavily on material prepared as part of the Metropolitan Toronto Transportation Plan Review. The assistance of William Howard (Toronto Area Transit Operating Agency), James McGuffin (Toronto Transit Commission), John Davey (Ontario Ministry of Transportation and Communications) and Merrill Johnston (Jarrett, Goold and Elliott) is acknowledged. In addition, assistance was received from the Metropolitan Toronto Planning Department, the area municipalities within Metropolitan Toronto, and the Regional Municipalities of Peel, York and Durham.

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SUMMARY

This report deals with institutional and organizational aspects of transportation planning and operations as they affect Metropolitan Toronto. The report is largely descriptive, dealing with how the system of transportation works, the nature of the planning and operating decisions and some indication of what trends suggest about future transportation problems as they relate to organizational issues.

Chapter 1 of the report concerns the evolution of the present system of transportation and associated policies. It emphasizes that much of what presently exists in the way of transportation facilities and organizations results from a series of individual decisions taken at particular points in time rather than one comprehensive policy exercised over a long period of time. Policy and community attitudes continuously change and the existing transportation system reflects these changes. Some description of certain key transportation decisions is also presented in the chapter.

Chapter 2 describes the organizations that have some degree of control, jurisdiction or impact on the transportation system within Metropolitan Toronto. As with most large urban areas there is a myriad of government and quasi-government agencies involving all levels of government whose decisions and activities affect transportation in the Metropolitan area.

The various agencies and their responsibilities are categorized in terms of local municipal organizations (including planning departments and works departments), metropolitan organizations (including committees of Council, metropolitan departments and the Toronto Transit Commission), regional organizations (primarily adjacent regional municipalities and the Toronto Area Transit Operating Authority), provincial organizations and ministries, and federal agencies (including the Ministry of Transport, the Canadian Transport Commission and both major railways. In addition, the chapter describes a number of coordinating agencies that involve integration of activity among different levels of government.

Chapter 3 of the report presents a summary of enabling legislation relating to transportation planning and operation in the Metropolitan Toronto area. Legislation which relates directly to municipalities (for example The Municipal Act, The Planning Act, and The Ontario Municipal Board Act) and specific transportation legislation are both discussed. Federal legislation relating to such matters as the Toronto Harbour Commission, the Railway Grade Crossing Fund and other programs is also described.

With the above background on existing organizations and enabling legislation Chapter 4 concentrates on describing the actual operation of the transportation system and how the various agencies perform their roles. The description deals with the different modes of transportation: transit, commuter rail, roads, parking, goods movement, taxicabs, and pedestrians and bicycles. For those interested in a brief understanding of how the existing transportation system functions, Chapter 4 provides most of the necessary information.

Chapter 5 concerns transportation planning and describes the procedures and results of major transportation planning studies carried out in 1959, 1964 and 1974. The findings of the recently completed Metropolitan Toronto Transportation Plan Review are also described. The chapter gives a few examples that indicate how planning procedures do in some cases and do not in other cases mesh with decision making at the political level. Finally the chapter concludes with a description of some of the major transportation issues that relate largely to the interrelationship between land use and transportation, the conflict among goals of different jurisdictions, rationalization of short and long term objectives and problems of coordinated transportation planning among different agencies.

Financing is closely related to planning since it is the essential tool for implementation of plans. Chapter 6 therefore examines the structure of transportation payments and subsidies and highlights some of the trends in the pattern of expenditures and revenues for transportation purposes. These financial trends are indicative of the changing influence exercised by different levels of government. They point to the increasing influence of the provincial government through financial control on decisions that are largely of a metropolitan nature.

Finally, Chapter 7 attempts to extrapolate the major trends in transportation to give some idea of where future problems may lie. The chapter points out that over the short term, future transportation demands can be determined on the basis of existing land use patterns. In this case, transportation needs are responsive to existing urban structure. Over the long term however, greater variation in land use possibilities can be expected and here transportation decisions can be used more as a formative tool for shaping future urban structure.

The key organizational issues with respect to transportation in Metropolitan Toronto basically relate to the fact that there are a large number of government agencies whose policies and programs influence the transportation system of Metropolitan Toronto. These agencies often have overlapping jurisdictions and in many cases the goals and objectives of a particular organization conflict with those of other organizations. A planning organization, for example, may favour certain transportation improvements because of their impact on land use but those same objectives may be in conflict with the need for an operating agency to meet certain financial constraints.

In this situation, integration of a number of small organizations into a larger organization that can rationalize the different objectives has a certain degree of appeal but it does suffer from the weakness that organizations with greater overall responsibility may not be sensitive enough to needs at the local level. For example, to many people it would appear logical to establish a Metropolitan parking authority to deal with parking problems and policies on a broad geographic basis. However, the policies of an organization viewing parking from a Metropolitan standpoint might run contrary to preferred parking policies as they may be perceived at the local scale, say by a local merchants' association. In a word therefore, eliminating inconsistencies in policies and objectives suggests reorganization into fewer and larger entities but this may run counter to concepts designed to be responsive to local needs.

The second major organizational issue concerns integration of programs and policies among the different modes of transportation. Clearly decisions on major transportation issues should not be made unilaterally by individual organizations. At present, within Metropolitan Toronto there is no single agency capable of integrating transportation policy, planning, pricing, and operations among

the different forms of transportation offered to the community. Moreover, decisions taken about transportation outside the Metropolitan boundary by other governments and agencies can have a significant influence on transportation within Metro. Developing organizational structures that can recognize this interaction among different jurisdictions therefore represents an important challenge.

Finally, the increased emphasis on public transit within the Metropolitan region presents another important organizational challenge because of the financial implications for Metro. Recent planning analyses suggest that Metro may well be in a position to finance the capital costs of the new public transportation facilities. There are, however, likely to be some serious problems in meeting the increasing annual deficits, particularly if substantial fare increases are to be avoided. Any consideration of expanding the transit network in future years therefore must involve exploring new sources of revenue. This will undoubtedly involve modifying the organizational structure to improve its ability for fund raising, revenue sharing and cost allocation.

Chapter 1

INTRODUCTION

1.1 CONTEXT

As one of the first steps in examining the overall structure of the Municipality of Metropolitan Toronto, The Royal Commission on Metropolitan Toronto has authorized a series of background papers to provide an information base for agencies and individuals preparing briefs for submission to the Commission. This report is concerned with one of the more important elements of urban structure: the transportation system.

1.2 OBJECTIVES OF THE PAPER

The transportation system of an urban area is important to the quality of life of the inhabitants, first through its direct and obvious effect in determining the level of accessibility to various urban functions, and secondly in the role it has in determining the form and characteristics of the region. (A large variety of other factors of course play a part, and these are examined in the other background reports.) The principal objective of this paper, then, is to *describe how transportation planning and operation take place in the Metropolitan Toronto area.* To do this, we examine all the relevant organizations, describe the operation of the various modes of transportation and the lines of operating responsibility, show how transportation planning is carried out and by whom, and review the financing of the construction and operation of the various facilities. Some general issues are addressed, but there is no explicit analysis of the strengths and weaknesses of the process.

1.3 EVOLUTION OF THE PRESENT TRANSPORTATION SYSTEM AND POLICIES

There have been a number of comprehensive transportation studies for the entire Metropolitan area, each of which has had its influence on the development of the existing transportation system. But as in most large urban areas Metro has rarely made decisions about entire transportation systems in one step. Area-wide concepts developed by planning agencies and adopted by municipal councils have generally provided a context within which individual transportation decisions have been taken. The system which actually emerges, however, is the sum total of a number of individual decisions, and often represents considerable deviation from the overall concept that may have been adopted at one time.

For example, the transportation plan approved by Metropolitan Toronto in 1966 included the Crosstown, Spadina, and Scarborough Expressways, and extension of the existing Yonge Street subway to Sheppard Avenue. In fact, the Yonge Street subway was extended beyond Sheppard to Finch (a decision which represented a minor deviation from the planning concept), and all three expressways have subsequently been cancelled or deleted from plans either by the provincial government (through financial controls) or the Metropolitan government. These deviations from the approved plan have occurred because the views and policies of elected councils change over time and because a particular council or government that approves one plan may be different from the council that subsequently has responsibility for implementation.

Although there have been a large number of studies and decisions that have influenced the development of the present transportation system in Metropolitan Toronto, there are probably four landmark decisions or plans that are most relevant for the purposes of the present discussion. Prior to the establishment of the Municipality of Metropolitan Toronto in 1954, the Toronto Transportation Commission had responsibility for the provision of public transit service in the City of Toronto. The T.T.C. had traditionally financed all improvements in transit service through fare box revenue and following the Second World War, found itself in the position of having a healthy surplus. With this surplus and with the large passenger volumes that were being carried on the Yonge Street streetcars, a decision was made to construct the first segment of

subway under Yonge Street between Union Station and Eglinton Avenue largely on an experimental basis. This experiment proved so successful that following the incorporation of the T.T.C. as an independent agency of Metropolitan Toronto in 1954, a continuous program for expanding the subway network was supported both by Metropolitan Toronto and the newly formed Toronto Transit Commission. As the subway network expanded, the ability of the T.T.C. to finance the cost of construction through revenues alone gradually decreased. Assistance towards the cost of construction was subsequently provided by Metropolitan Toronto through a special levy on real property assessment and eventually additional funds were provided on a grant basis from the provincial government as well.

The second major landmark occurred in 1966 when Metro Council adopted a Transportation Plan for Metropolitan Toronto. This plan, shown in Figure 1.1, was prepared by the Metropolitan Toronto Planning Board and called for the construction of an extensive network of urban expressways in addition to the continued expansion of the network of major public transit facilities, including subways and commuter rail services. Most of the public transit elements of that plan have either been completed or are now under construction. However, with the exception of the Don Valley Parkway and a small portion of the Spadina Expressway, most of the urban expressway elements have either been cancelled or deleted from the plan.

Prior to the adoption of the 1966 plan, a second major transportation study was initiated in 1963 known as the Metropolitan Toronto and Region Transportation Study (MTARTS). This study differed from the efforts of the Metropolitan Toronto Planning Board in that it concentrated on transportation requirements and development plans for the entire Toronto Centred Region. It was initiated and executed almost entirely by the provincial government. MTARTS recognized that as the growth of the Metropolitan Toronto region increased, transportation decisions would have to be taken about facilities and services beyond the jurisdictional boundaries of Metropolitan Toronto itself. The study produced two significant results.

First, it laid the basis for the gradual development of a regional commuter rail system making use of high speed, high quality transit service on existing railway facilities. At a time when commuter rail operations throughout North



FIGURE 1.1 1966 METROPOLITAN TORONTO TRANSPORTATION PLAN

America were rapidly disappearing, MTARTS rekindled interest in this form of transportation for meeting the travel requirements of long distance commuters to the central area.

Second, MTARTS essentially formed the basis for the Toronto Centred Region concept, a provincial policy for restraining the growth of Metropolitan Toronto and directing growth in the Toronto Centred Region into patterns that could be more efficiently managed from the point of view of municipal services including transportation.

The third major transportation study was initiated in 1972 by an intergovernmental task force known as the Metropolitan Toronto Transportation Plan Review that was established under a joint agreement between the Municipality of Metropolitan Toronto and the provincial Ministry of Transportation and Communications. This review was completed in December, 1974. It concentrated largely on defining a number of realistic alternatives for transportation and land use development within Metropolitan Toronto, taking into account developments outside the boundaries of Metropolitan Toronto that were likely to have significant impact on the transportation system within the municipal boundaries.

During the course of the Transportation Plan Review a number of specific recommendations were made about particular elements of the 1966 plan, e.g. the Scarborough Expressway. While no one specific plan is recommended in the final report of the Transportation Plan Review, considerable emphasis is placed on encouraging decentralized forms of land use development (that is, the creation of regional sub-centres that tend to reduce the overriding importance of the existing central area) and transportation systems that would encourage the implementation of such development policies. Wherever possible, the Transportation Plan Review emphasized increasing dependence on public transit and to a very large extent gave low priority to road improvements and the construction of new urban expressways. While a number of alternative transportation plans were postulated, the concept shown in Figure 1.2 emerged as the one most likely to achieve the objectives implicit in current policies of both the Metropolitan and provincial governments.

Traditionally, transit improvements in Metropolitan Toronto have been financed from transit revenues. Major road improvements were financed partially through 50 percent

SOURCE: METROPOLITAN TORONTO TRANSPORTATION
PLAN REVIEW REPORT #64



FIGURE 1.2 ALTERNATIVE TRANSPORTATION SYSTEM 3 OF THE M.T.T.P.R.

grants from the provincial government. As mentioned previously, with the emergence of the subway network the T.T.C. found it increasingly difficult to finance the capital costs of construction from transit revenues alone and, as a result, capital grants first from Metropolitan Toronto and then from the provincial government were necessary to cover the costs of construction. More recently, transit revenues have not even been able to keep pace with increases in operating costs and here too grants and subsidies to cover the deficits had to be provided by both levels of government. Another landmark therefore, which is relevant in terms of its impact on the present transportation system, was the statement of provincial policy regarding urban transportation made in November, 1972.

In this announcement, the provincial government made an explicit statement about financing policy that will undoubtedly influence the development and operation of the public transit system within Metropolitan Toronto. Under the new policy, the provincial government contributes 75 percent of the costs of construction for new transit facilities and 75 percent of the capital costs of new equipment including buses. In addition, 50 percent of the operating deficits of the T.T.C. are covered by the provincial government, although here some upper limits are periodically established. These limits determine the need for fare increases in the light of ever-increasing operating deficits.

The first reaction of the Metropolitan government to the provincial government statement of policy was effectively to reduce the average level of fares by eliminating the zone fare system. In 1973, faced with the possibility of a fare increase, Metropolitan Toronto requested additional funds from the provincial government which then agreed to raise the ceiling on its transit operating subsidies. As a result of the 1974 labour settlement on the T.T.C., however, deficits were expected to rise to unacceptable levels, and in March, 1975, Metropolitan Toronto and the T.T.C. approved a general increase in fare levels that had not been raised since 1969.

To recap, the present transportation system results from a series of individual decisions about specific transportation facilities and particular operating and financing policies. In general, these individual decisions have been taken within the context of overall transportation

plans that applied at the time each decision was taken, but in some cases, the decisions represent significant deviations from the overall concept as a result of changes in community and political attitudes. The present system serves Metropolitan Toronto reasonably well in comparison to cities of comparable size elsewhere in North America. Road facilities provide good access throughout the region and the existing transit system provides a high degree of access to the central area. In 1954, the backbone of the public transit system was the network of streetcar routes. In 1975, the backbone of the system is the subway network, although recently there has been a renewed interest in developing new streetcar routes to provide better transit service in the lower density suburban areas. While operating deficits are increasing and substantial subsidies are required from both the metropolitan and provincial levels of government, fare levels have been maintained at a relatively low level for the quality of service provided, and unlike most other North American cities, transit patronage has remained at a high level.

Chapter 2

THE RELEVANT ORGANIZATIONS

2.1 INTRODUCTION

The organizational structure involved in planning, designing and operating the transportation system in the Metropolitan Toronto area is quite complex. Despite the simplification and increase in efficiency (compared to many other cities) brought about by the formation of metropolitan and regional governments, there are many public agencies involved in the process at four levels of government: the local municipalities, regional (including metropolitan) governments, the province, and the federal level. Before discussing the process in general and the various interrelationships involved, it may be useful to briefly introduce the various organizations. In this chapter, then, the relevant organizations are listed together with a brief history of the more important ones. With an understanding of the players, their roles are delineated in more detail in a later chapter. The agencies are classified here in terms of level of government. Only the transportation role of each level is described, with little discussion of other functions.

2.2 LOCAL MUNICIPAL ORGANIZATIONS

Metropolitan Toronto is composed of the City of Toronto and five boroughs: Etobicoke, York, North York, East York and Scarborough. These six "area municipalities" were formed in 1967 by consolidation of the original 13 that existed at the time Metro was created in 1953. The area municipalities are responsible for the local street system, and have some responsibilities in transportation planning. Within Metropolitan Toronto, they have no transit responsibilities. Each municipality has a works department or its equivalent, with a roads department that may or may not be separate. The municipality may also have a transportation planning group, usually as part of the planning department.

(i) Local Works and Streets Department

Each of the six area municipalities constituting Metropolitan Toronto has a department or departments responsible for

constructing and maintaining local roads, sidewalks, road signs, street lighting, on-street parking, and other local transportation functions. (The exact delineation among local, regional and provincial functions is discussed in detail in the next chapter under "enabling legislation".)

City of Toronto. Toronto has a Public Works Department that is responsible for all local streets in Toronto, and for all on-street parking in the City. The Streets Department, which was responsible for cleaning and maintaining city streets, was recently merged into the Public Works Department. There is an engineering unit for roads and walks, and a Traffic Engineering group in the Public Works Department. The latter group takes an active part in dealing with local traffic problems, and interacts with the metropolitan and provincial levels.

Etobicoke. The Works Department in Etobicoke has separate branches responsible for engineering and operations. The engineering branch is responsible for capital construction and has a roads section. The operations branch is responsible for street and sidewalk maintenance. Traffic engineering is handled by the Traffic and Transportation Division of the Planning Department.

York. York has a Works Department with responsibility for roads that includes a section for traffic engineering.

North York. The Works Department is responsible for the construction and maintenance of roads and sidewalks. There is a separate Traffic Department, with its own Commissioner, which is responsible for traffic engineering, the placement of signs, traffic counts, and other related work.

East York. There is a Works Department which is split into two branches: Engineering, which is responsible for design and construction, and Operations, which is responsible for maintenance and operation. Each of these branches has a section responsible for roads.

Scarborough. There is a Works Department under a Commissioner, and the Department has two branches: Engineering and Operations. The Engineering branch has a group responsible for road construction, and a Transportation group, which carries out planning studies and is responsible for traffic engineering. The Operations branch has a division responsible for streets: they maintain and repair them, and carry out work on signs at the request of the Transportation group in Engineering.

(ii) Local Planning Departments

Each of the area municipalities has planning responsibility with respect to creating and maintaining an official plan and zoning by-laws and therefore has a planning department. The Official Plans include transportation networks and so, in general, some transportation planning capability is also required. The extent of this capability varies among the area municipalities.

The City of Toronto Planning Board has no transportation planning division but does employ transportation planners. They do have consulting work carried out in this field, however, and the Public Works Department has carried out studies on parking. Etobicoke, as mentioned previously, has a Traffic and Transportation Division within the Planning Department. The Director of this Division reports to the Traffic and Transportation Committee of Council, and is responsible for traffic engineering as well as more comprehensive transportation planning. This arrangement is unique to Etobicoke.

York has a Planning Department without any transportation planning group. The North York Planning Department examines local street proposals in its Subdivision Section, but does not have a transportation planning group. East York has a Planning Department without a transportation section. The Scarborough Planning Department retains a transportation engineer. In addition, the Transportation group in the Works Department carries out some transportation planning studies.

Generally speaking, then, comprehensive transportation planning is not carried out to any great extent at the level of the area municipalities; this is mostly a regional and a provincial function.

(iii) Local Parking Authorities

Only the City of Toronto and the Borough of York have Parking Authorities.

The Parking Authority of Toronto. The Toronto Authority was created in 1952, and resulted largely from a 1948 parking survey of downtown Toronto which showed a significant shortage of parking spaces. Three resident ratepayers are appointed by City Council to the Authority, which is

responsible for the construction, maintenance, control, operation and management of land and buildings for parking. The Authority has a General Manager, and is responsible for about 15,000 parking spaces in 78 municipal carparks. The ownership of all Parking Authority lots is vested in the City, which has the power to develop them for other purposes if it wishes. The Authority has been self-sustaining and largely autonomous, but recently City Council has begun to guide its activities more closely. The Public Works Committee gives the Parking Authority permission to build carparks, and the Executive Committee grants permission to expend funds. The parking lots on the Bloor/Danforth subway line are operated for the T.T.C. by the Toronto Parking Authority under a special agreement. At the time the line was opened this seemed the most expedient arrangement. It may change in the future.

The Parking Authority of the Borough of York was founded in 1957, and has an Authority Committee with three appointed members. The borough clerk is the general manager of the Authority, which runs four lots.

2.3 METROPOLITAN TORONTO ORGANIZATIONS

(i) Committees of the Metropolitan Council

The members of Metro Council are representatives from the local Councils of the City and the Boroughs. The members elect a Chairman. Much of the activity is carried out by committees. The Executive Committee prepares the annual budget estimates, makes recommendations to Council on all capital expenditures, calls for tenders and awards contracts for supply of works and materials, recommends appointments of senior officials and members of boards and commissions, and administers the affairs of Metro Council. Metro's staff functions report directly to the Executive Committee. The line or operating departments report to the standing committees of Council. The Roads and Traffic Department reports to the Transportation Committee. The Director of the Transportation Division of the Planning Department usually attends Transportation Committee meetings. The Planning Department reports to the Planning Committee, which replaced the Metropolitan Toronto Planning Board on January 1, 1975.

(ii) Metropolitan Toronto Department
of Roads and Traffic

The Metropolitan Department of Roads was organized when the Municipality of Metropolitan Toronto was established in 1953 to meet the responsibilities for major roads as provided under the enabling legislation. In 1954, the Metropolitan Traffic Engineering Department was established through Metro by-laws, with the primary responsibility of regulating traffic. In 1968, these two departments were amalgamated under one Commissioner into the Department of Roads and Traffic, which took over total responsibility for construction and operation of roads under Metropolitan jurisdiction, including traffic engineering and all traffic signals. The Department has four branches under the Commissioner, each with its own Director: Administration, Operations, Planning and Design, and Traffic Engineering.

The Administration Branch deals with purchasing, accounting and related activities. The Operations Branch is responsible for maintaining the Metropolitan road system (through its Maintenance Division), and for overseeing construction projects contracted by the Department (through the Construction Division of the Branch). The Planning and Design Branch has a Planning Division which carries out preliminary engineering studies and considers building set-backs and right-of-way problems; a Research and Development Division; a Design Division responsible for roads and bridges, and a Survey Division responsible for providing legal and technical surveys and keeping records of properties owned by the Department. The Traffic Engineering Branch has an Operations Division, which is responsible for the installation and maintenance of all traffic signals within Metro, traffic signs on Metro roads, pavement markings, and pedestrian crosswalks, a Research Division which carries out traffic studies, and the Traffic Control Centre, which is responsible for the computer control of traffic signals.

(iii) Metropolitan Toronto Planning Department

The Metropolitan Toronto Planning Board was dissolved at the end of 1974, and the Planning Department came into being on January 1, 1975. The primary responsibility of the Planning Department is to produce a new Metropolitan Plan. A Plan was prepared in 1966, and is now undergoing a review through a task force called Metroplan. The Metropolitan Toronto

Transportation Plan Review was a task force set up by the Planning Board in 1972 in cooperation with the T.T.C. and the provincial Ministry of Transportation and Communications to review the transportation component of the 1966 Metropolitan Plan; its final report was produced in January 1975, and its results are being incorporated into Metroplan.

The Planning Department has six Divisions. The Transportation Division is responsible for all planning related to transportation. Local proposals are also reviewed in terms of area-wide transportation effects. The Development Control Division examines subdivisions, local official plan amendments, zoning bylaws and Committee of Adjustment decisions from the point of view of Metropolitan interests and concerns within the context of the 1966 Metropolitan Plan. The Projects Division carries out specific investigations with relatively narrow terms of reference. The Long Range Planning Division examines long term alternatives and is responsible for Metroplan. The Policy Division is responsible for liaison with other levels of government, and for maintaining an awareness of inconsistencies in policy. The Research Division maintains the data base for the planners, and makes projections of various demographic indicators.

The work of the Divisions is highly interrelated, and staff from many Divisions may be involved in various stages of a project. The Transportation Division takes on a wide variety of work, ranging from the transportation aspects of Metro Centre to travel behaviour studies and the development of forecasting techniques.

(iv) Toronto Transit Commission

The Toronto Transit Commission is a public agency supervised by five Commissioners appointed by Metro Council. It was once quite independent. However, due to the increasing subsidies required during recent years from the Metropolitan and Provincial governments, first for capital expenditures and subsequently for operating deficits, and the fact that three of the five Commissioners can now be elected officials from Metro Council, the T.T.C. has lost much of its earlier autonomy. For convenience, it is considered in this section as a Metropolitan agency.

In 1921, all public transportation within the City of Toronto, with the exception of railways and taxis, was consolidated into the Toronto Transportation Commission,

a corporate body under three Commissioners appointed by the City Council. Between 1921 and 1953, passenger miles operated grew from 26.8 to 35.8 million a year and revenue passengers rose by almost 100 million to 286.8 million in 1953. On December 31, 1953 the Toronto Transportation Commission was replaced by the Toronto Transit Commission, with five Commissioners appointed by Metro Council. In effect, the system was expanded to cover the entire Metropolitan area. As Metro grew, service kept pace through additional bus routes and extension of the subway network. The mandate of the Commission requires that it

shall consolidate and co-ordinate all forms of local passenger transportation within the Metropolitan Area with the exception of steam railways and taxis, and shall plan for the future development of such transportation so as to serve best the inhabitants of the Metropolitan Area. [The Municipality of Metropolitan Toronto Act]

The T.T.C. thus has a monopoly over local transit in Metro. (Gray Coach Lines Limited is a wholly-owned subsidiary of the T.T.C. and is a regional operator in competition with private operators.) The T.T.C. operates autonomously with the responsibility of setting fares, and owns and operates the subway, trolley coach, streetcar and bus routes. The sole constraint is Metro Council approval of capital projects requiring Metro debenture issues. The fare levels are also affected by Metro, because they must be set so that the operating deficit is not greater than what Metro and the Province are willing to pay. The T.T.C. works in cooperation with the Metro Department of Roads and Traffic, which maintains pavement lying in the track allowance for streetcars, and the passenger loading platforms on Metro roads. The T.T.C. carries out route planning and is responsible for efficient operation, but has no comprehensive planning responsibilities. By every significant criterion, the T.T.C. is among the best transit systems in North America, and compares favourably with European systems.

(v) Metropolitan Licensing Commission

This agency is responsible for enacting Metro-wide regulations and standards and for setting and administering fees for the licensing of businesses and trades catering to the general public. The Commission consists of the Chairman of Metro Council (ex officio) and two appointees

of the Ontario Government. The Commission monitors conformance to its standards and regulations through its Enforcement Branch.

The Licensing Commission affects the transportation system in two ways: it licenses and regulates taxicabs, and it licenses and (to a very minor degree) regulates public off-street parking facilities.

2.4 REGIONAL ORGANIZATIONS

This section considers a number of organizations responsible for transportation in the areas outside Metropolitan Toronto but within the Toronto-oriented commuter-shed. The municipalities around Metro have been consolidated under regional governments, as shown in Figure 2.1. To the west are the Regional Municipalities of Peel, Halton and Hamilton-Wentworth. To the north is the Regional Municipality of York, and to the east, the Regional Municipality of Durham. The transportation planning and operations within each of the Regional Municipalities bordering on Metro are considered below followed by a discussion of the Toronto Area Transit Operating Authority (TATO), which is responsible for the operation of transit among some of these regions.

(i) Regional Municipality of Peel

As in Metro, the system of major roads is built, maintained and operated by the regional government. (Provincial roads are operated by the Province.) The Department of Works in Peel is responsible for this activity. Local roads are built and maintained by the area municipalities such as Mississauga and Brampton. The Planning Department of Peel has a Transportation Division which is responsible for transportation planning. Most of the local municipalities do not have transportation planning capabilities, so the regional municipality provides this service. For instance, the Brampton Transit Study is being carried out by the Region of Peel.

The City of Mississauga has a rapidly growing local transit service. The Transit Department of Mississauga now has 60 buses, twice what it had a year ago. The Manager of the Department reports to the General Committee of Mississauga Council. The City of Brampton has Brampton Transit, which comes under the City Manager's Division. The service is contracted to Travelways, which dedicates 7 buses to it. Bramalea has a Dial-a-Bus service consisting of 14 vehicles.

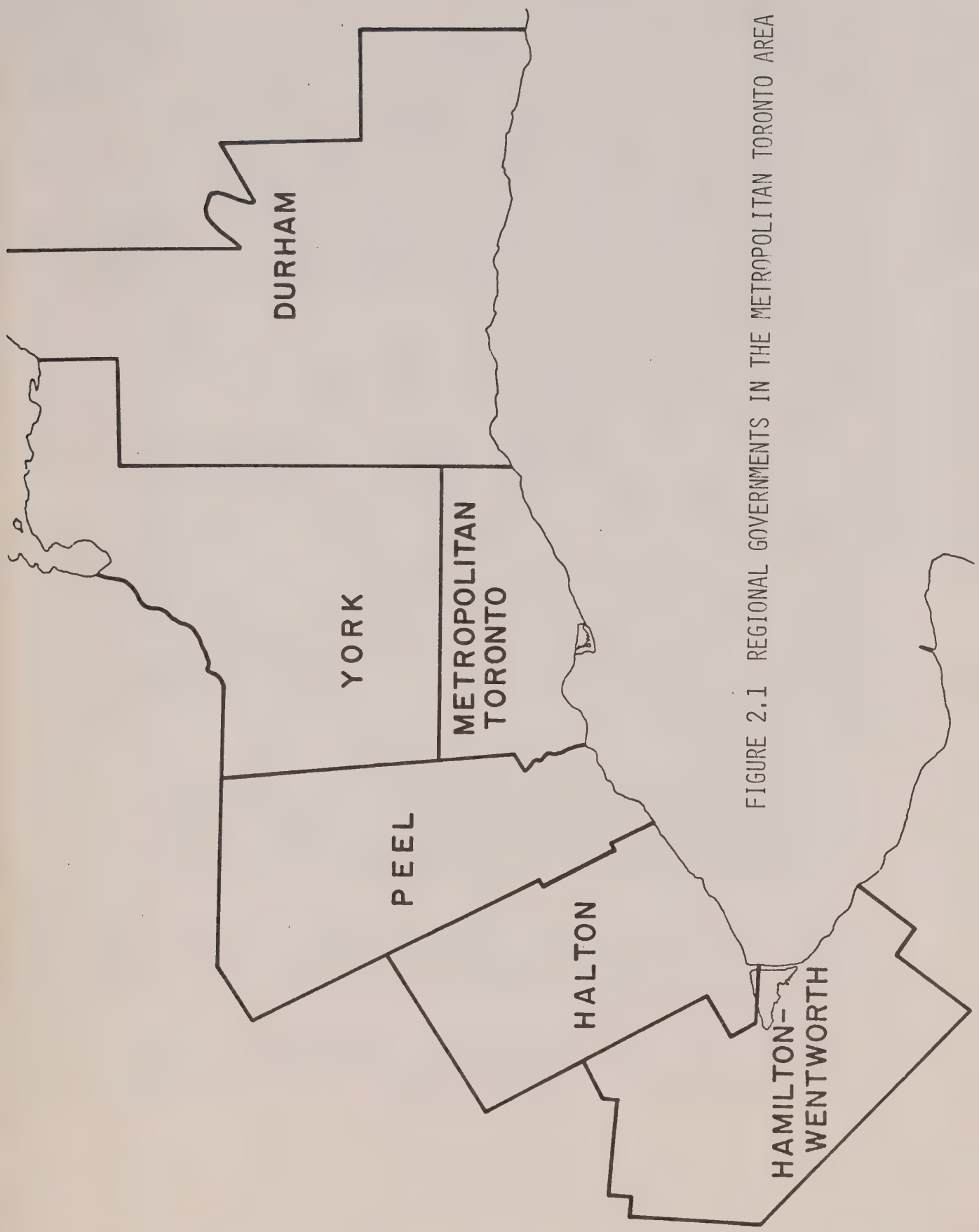


FIGURE 2.1 REGIONAL GOVERNMENTS IN THE METROPOLITAN TORONTO AREA

(ii) Regional Municipality of York

The Region of York has a Planning Department and an Engineering Department, among others. The Planning Department is responsible for developing the Official Plan, but does no transportation planning. The Engineering Department, in its Operation, Construction and Design Divisions, has responsibility for the construction and maintenance of regional roads; the Transportation Services Division carries out all traffic and transportation planning in its two Branches, Traffic Engineering (responsible for traffic counts and studies) and Transportation Planning (responsible for the transportation component of the Official Plan, and comprehensive transportation planning).

There are some local transit services in the Region of York. Markham owns a fleet of 8 small buses, which are run under contract by Travelways, a private firm. Richmond Hill and Newmarket have local systems contracted to Travelways. Richmond Hill, Vaughan and Markham have a shared cost arrangement for service contracted to the T.T.C. Vaughan contracts to the T.T.C. for service to Woodbridge and Maple. Aurora has Aurora Bus Lines, a private operator with four buses.

(iii) Regional Municipality of Durham

In the Region of Durham, the Department of Works builds and maintains the regional roads. The arrangement is similar to that of the other regional governments. The local roads are the responsibility of the area municipalities.

The Department of Planning and Development, which is responsible for regional planning, has a Transportation Planning Branch in its Planning Division. This Branch is responsible for roads and transit planning and is currently carrying out a regional transportation study. The Planning and Development Department is responsible to the Planning and Development Committee of Regional Council.

Oshawa, Whitby, Pickering, and Newcastle all have Planning Departments, but none of them has a transportation planning group. There is little comprehensive transportation planning carried out at the local level.

There are three local transit systems operating in Durham Region. Oshawa Transit serves the whole urbanized area of Oshawa; it has about 40 buses and in 1974 carried 3.7

million passengers. It is operated by the Oshawa Public Utilities Commission. Pickering Transit is operated by a department of the Town, and is a Dial-a-Bus service. Ajax contracts a one-bus service to Charterways, a private firm.

(iv) Toronto Area Transit Operating Authority

In March 1973, upon the recommendation of the Premier, a task force was established to develop terms of reference for a committee which was to study the need for and the implications of a Regional Transit Authority in the Toronto Centred Region. This task force recommended that alternatives be considered for a regional authority with operating responsibilities only, i.e. no comprehensive planning function. A Steering Committee to develop the final form of this Agency was formed, chaired by the Deputy Minister of the Ontario Ministry of Transportation and Communications, and consisting of 10 other members representing relevant public and private agencies.

Their report was presented in January, 1974, and on their recommendations the Toronto Area Transit Operating Authority (TATO) was established. The enabling legislation (The TATO Act) was passed in July, 1974, and the office was opened on September 1. The intention was to include Metro, Peel, York and Durham in the jurisdiction of the Authority, but Durham chose not to join. The Authority is composed of four members: a Chairman appointed by the Provincial Cabinet, and the chairmen of the Councils of Peel, York and Metropolitan Toronto. The chairmen of the regional councils of Halton and Hamilton-Wentworth are Associate Members of the Authority; they may attend and participate in the discussions at any meeting of the Authority on any matter pertaining to their regions.

The basic responsibility of the Authority is to provide inter-regional transit services, i.e. services across the regional boundaries. The report of the Steering Committee recommended that the regional governments establish the necessary organizations within each region to administer regional transit service, but this was not made part of The TATO Act. Only the T.T.C. is a regional (as opposed to either a local or an inter-regional) operator. Peel, York and Durham have only local operators, which were discussed in the previous section. TATO's other objectives are to coordinate regional and inter-regional service, to provide information and assistance in this coordination, and at the request of a regional government in its area, to study the design and operation of a regional transit system.

TATOA has a Managing Director, and divisions for Operations, Marketing and Information, and Finance and Administration. The Authority took over all the operations of GO Transit from the Ministry of Transportation and Communications of Ontario. The actual operation of this commuter service is carried out by Canadian National, Gray Coach and Travelways under contractual arrangements with the Authority.

(v) Inter-regional Bus Companies

Gray Coach, Travelways and Charterways provide bus services that cross regional boundaries. Gray Coach is a wholly-owned subsidiary of the Toronto Transit Commission, whereas Travelways and Charterways are private companies. Some local services also cross regional boundaries, as for example Mississauga Transit which provides direct service to the Islington Subway station.

2.5 PROVINCIAL ORGANIZATIONS

Most of the direct transportation responsibilities of the Province fall under the Ministry of Transportation and Communications. The Ontario Municipal Board also plays a role in transportation decisions. Finally, the Ontario Transportation Development Corporation, while not strictly a provincial agency, is considered in this section.

(i) Ministry of Transportation and Communications

The Ministry attained its present form and responsibilities in 1971, as a result of the expansion of the former Department of Highways, in order to take responsibility for the range of activities within the general area of transportation and communications. The Ministry is charged with the responsibility for providing an integrated and balanced transportation system embracing road, transit, air, water and pipeline, and regulating various communications services throughout Ontario. The Ministry administers all provincial Acts and Regulations pertaining to these matters.

The Ministry is divided into four major groups:

- (i) Operations, Research and Development
- (ii) Planning and Design
- (iii) Administration, and
- (iv) Drivers and Vehicles

In addition, there are five Regional Directros responsible for offices around the Province. (The Ontario Highway Transport Board, which reports directly to the Minister,

is discussed separately.) In the Planning and Design group, work is carried out on integrated transportation plans for the province for various time horizons; this is intended to support comprehensive land use planning. Financial and technical assistance is provided to regional and local municipalities in their transportation planning activities.

The Operations, Research and Development group is responsible for the construction and maintenance of the provincial transportation system and undertakes research on advanced concepts and long range transportation development. Subsidies are provided to municipalities for transit and roads, and these are administered under the provisions of The Public Transportation and Highway Improvement Act. Ministry staff closely monitor transit and road services.

The Ministry has a significant impact on Metropolitan Toronto. It has built major urban expressways such as Highways 401 and 427, and it provides a 50 percent subsidy to Metro and to the area municipalities for building roads. In addition, it provides significant capital and operating subsidies to the Toronto Transit Commission as discussed in a later section. The Ministry also provides financial and technical assistance to Metro for transportation planning.

(ii) Ontario Highway Transport Board

The Ontario Highway Transport Board is a relatively autonomous quasi-judicial agency with the Ministry of Transportation and Communications. It consists of five members appointed by the Cabinet, and is responsible for the regulation of public commercial vehicles, buses, and international and interprovincial trucking. The Board receives applications from carriers, considers them in hearings or "in chambers", and recommends in a Certificate that the Ministry should grant a license, where "public convenience and necessity" warrant its issue. The Board has the powers of a court, including contempt citations and the power to levy fines.

(iii) The Ontario Municipal Board

Although not a transportation-related organization, the Ontario Municipal Board has played an important role in some transportation decisions. The Board has existed in

its present form since 1932, and consists of 15 members appointed by the Cabinet; it reports to the Attorney General of Ontario. In general, the Board is empowered to enquire into the "necessity or expediency" of any act of a municipality (or any Board or Commission within the municipality) that involves financial commitment beyond one year. A Board decision can be appealed to the Cabinet. Thus, the Board effectively rules on the capital activities of all transportation agencies below the provincial level, since most projects require commitments of financing beyond one year.

(iv) Ontario Transportation Development Corporation

The Ontario Transportation Development Corporation is a private company, the stock of which is presently owned by the Province of Ontario. Plans are now underway to diversify the ownership of the Corporation to include other provincial governments and the federal government and thereby establish a national urban transportation development corporation. As a private company, the OTDC has no jurisdictional power within Metropolitan Toronto or within any other municipal government in Ontario or Canada. Its primary purpose is to promote and stimulate the growth of the Canadian transit industry and to conduct research and development in the area of transit technology. Through its Board of Directors, however, the OTDC can be responsive to specific transportation requirements in particular urban areas and it does work closely with operating agencies such as the T.T.C. and TATOA in helping to develop specifications for particular transit needs.

(v) Ministry of Treasury, Economics and Intergovernmental Affairs

While this Ministry has no direct authority over transportation in Metropolitan Toronto, the Regional Planning Branch is responsible for regional planning studies that at one time produced the Toronto Centred Region concept and are now concerned with the Central Ontario Lakeshore Urban Complex (COLUC). Programs of this Ministry play an important role in developing provincial policy for regional development and regional transportation services that do affect Metropolitan Toronto.

2.6 FEDERAL AGENCIES

The Ministry of Transport is the major agency under this category. The Canadian Transport Commission is important as well. Although they are not strictly government agencies, both major railways are also considered under this category since they are regulated by the federal government.

(i) Ministry of Transport

The federal Ministry of Transport is responsible for the operation, construction and in some cases regulation of transportation facilities and services that come under federal jurisdiction. Essentially this includes aviation, marine activities and some aspects of railway transportation (other components of which are controlled by the Canadian Transport Commission, as discussed below). The organization of the Ministry of Transport is quite complex, consisting of a number of different administrations which report to the Deputy Minister of Transport. Those administrations which are most relevant to transportation in Metropolitan Toronto include the Canadian Air Services Administration, the Canadian Marine Transportation Administration (which includes the National Harbours Board), the Canadian Surface Transportation Administration and the Policy, Planning and Major Projects Office of the Central Ministry Staff.

The Ministry of Transport through these various administrations has little or no direct control over transportation within Metropolitan Toronto, but the federal presence in airports, harbours and railway regulation often requires that inter-governmental committees be established to deal with the possible impact of federal activity within the urbanized area. In general, neither the area municipalities nor Metropolitan Toronto itself deal directly with the federal government as most negotiations take place between the provincial and federal levels of government. Some notable exceptions include the recent federal government airport inquiry and discussions currently taking place among all three levels of government regarding the future of the Metro Centre transportation terminal.

At the present time the federal government makes available no funds directly, either to the Province of Ontario or to Metropolitan Toronto for urban transportation purposes. However, as a result of a recent study of commuter rail services in Metropolitan Toronto carried out by the federal government, an agreement has been reached whereby the federal

government will pay for the costs of new equipment to be purchased for the Richmond Hill commuter rail service, scheduled to be in operation in about two years. For this service, the federal government has allocated an expenditure of ten million dollars. In addition, in a policy enunciated by the federal government in June of 1974, an indication was given that federal funds would be available to assist with equipment purchases for public transit operations in urban areas throughout the country. At this point in time the details of the program and the level of funding available have not been clearly defined.

(ii) Canadian Transport Commission

The Canadian Transport Commission was established by the National Transportation Act of 1967 which essentially integrated a number of different regulatory bodies and commissions within one organization. The C.T.C. is concerned with economic regulation of the transportation industry and the granting of licenses and rights for inter-provincial and international transportation services. In addition, under the terms of the Railway Act which was modified and incorporated as part of the National Transportation Act, the C.T.C. rules on the eligibility of inter-city railway passenger services for subsidies and the rights of the railways to increase, reduce or abandon existing inter-city passenger services. While no direct subsidies are paid for commuter rail operations, some of the inter-city services between Toronto and Guelph, Peterborough, Markham and Barrie are eligible for subsidies (up to 80 percent of operating losses) and these services do provide a certain degree of commuter capacity. In some instances, where the railways have applied to discontinue some of these services, the C.T.C. has ordered the services to be continued and this largely reflects an opinion on the part of the C.T.C. as to the usefulness and importance of the railways' commuter function.

In addition, the C.T.C. administers the Railway Grade Crossing Fund which makes limited amounts of money available to offset some of the costs of grade separation between railway and road facilities. The Railway Relocation Act under which these funds are now disbursed has recently been modified to increase the allowable amounts for individual projects. Previous limits were originally determined on the basis of requirements for rural grade separations and are not entirely appropriate for the situation that presently exists in urban areas. The Act makes provision also for funding studies and implementation of railway relocation in urban areas, in a joint effort involving the C.T.C., the federal Ministry of Transport, and the Ministry of State for Urban Affairs. No funds have yet been granted in Ontario under this latter provision, but grants are possible in the future.

The Canadian Transport Commission consists of 17 members including a President and two Vice-Presidents, all of whom are appointed by Cabinet. At the Commission level, the Commissioners are grouped into a number of different committees with responsibility for regulation in the fields of water transportation, air transportation, motor vehicle transportation, inter-provincial commodity pipelines, railway transportation and international transportation.

(iii) CN and CP Railways

Both major Canadian railways operate within the Metropolitan Toronto area and offer inter-city passenger services that have modest impact on transportation within Metropolitan Toronto. CN, as a Crown corporation, has slightly more flexibility with respect to decisions taken within the Metropolitan area (for example, with respect to powers of expropriation) because of its Crown status. In addition, CN property cannot be expropriated by a municipal agency. CN does operate commuter rail services on behalf of TATO A but decisions about schedules and fares charged are at the discretion of TATO A. In this case, CN simply acts as a contractor in much the same way that some of the surrounding regional municipalities contract certain transit services to private bus operators. At the present time, no strictly commuter rail services are operated by CP Rail although there is a strong likelihood that within the near future TATO A will expand commuter rail services on some of the existing CP facilities.

Through the joint ownership in Metro Centre Developments Limited, both railways are indirectly involved in some fairly important development considerations for the future of Metropolitan Toronto that may have significant influence on transportation needs.

2.7 COORDINATING AGENCIES

There are a number of committees in existence whose purpose is to coordinate the activities of different agencies and levels of government in the areas of transportation planning and operation. Since the local municipalities and regional governments are in many ways creatures of the Province, the municipal/regional/provincial links are the strongest as far as Metro is concerned; coordination with the federal government has lower visibility. The longevity of the local and the local/provincial coordinating committees varies.

Some, such as the now-defunct Joint Transportation Technical Planning Committee (the J.T.T.P.C.) lasted only a few years, while others have existed since 1954. Some of the more important committees are considered in this section.

(i) Metropolitan Toronto Transportation Technical Advisory Committee

The predecessor of this committee was established in 1957 by Metropolitan Council, and was called the Roads, Traffic and Planning Technical Committee. In 1962, the scope of the committee was expanded and new members were added. The Committee now consists of the Metropolitan Commissioner of Planning, the Metropolitan Commissioner of Roads and Traffic, the Planning Engineer for Metro from the Ministry of Transportation and Communications, and the Director of Planning of the Toronto Transit Commission. The main concerns of the Commission are the functional design of road facilities and the establishment of traffic operational policies.

(ii) Subway Property Committee

This Committee consists of a representative of the Metropolitan Planning Department, the Manager of Property and Special Assignments of the T.T.C., and the Metropolitan Property Commissioner. The Committee deals with matters involving land acquisition for subway purposes and also initiates action for the disposal of surplus property or leasing of air rights.

(iii) Technical Transportation Planning Committee

This Committee was established by Metropolitan Council in 1974 and is composed of the Metropolitan Commissioner of Planning (who is Committee Chairman), the Metropolitan Commissioner of Roads and Traffic, and the General Managers of Subway Construction and Operations of the Toronto Transit Commission. The Committee reports on matters of interest to Metro dealing with transportation planning and may be responsible for special projects such as the Light Rail Transit facility recently proposed to serve the Scarborough Town Centre.

(iv) Toronto Area Transit Planning Coordinating Committee

Subsequent to the formation of TATO, this Committee was established under the chairmanship of the Ministry of

Transportation and Communications to coordinate transit planning activity over the TATOA area, including the establishment of priorities for the implementation of commuter rail services in the Toronto Region. Membership in the Committee includes the M.T.C., TATOA, T.T.C., Metropolitan Toronto and the Regional Municipalities of Peel, York, Durham, Halton and Hamilton-Wentworth, and Hamilton Street Railway. The Committee submits its recommendations to the Minister of Transportation and Communications. Metro is represented by the Commissioner of Planning and the Director of the Transportation Division of the Planning Department.

(v) Metropolitan Toronto Traffic Conference

The Conference is sponsored by the Board of Trade of Metropolitan Toronto and has been in existence since 1930. It is comprised of technical officials, elected representatives and members of private organizations all having a common interest in and responsibility for the movement and safety of vehicular and pedestrian traffic. It provides an opportunity for these people to meet and discuss matters of common interest.

(vi) Metropolitan Toronto Technical Traffic Committee

This Committee was formed in 1955, and includes traffic experts from the Metropolitan Department of Roads and Traffic, the City of Toronto Department of Public Works, the Metropolitan Police, the Boroughs of North York, York, Etobicoke, East York and Scarborough, the Ministry of Transportation and Communications, the Metropolitan Toronto Planning Department, and the T.T.C. All traffic matters of mutual interest are discussed by this Committee and uniform policies formulated. The members are especially concerned with the Uniform Traffic By-law, the Uniform Traffic Policy and the Pedestrian Crossover Program.

(vii) Toronto Centred Coordinating Committee

Meetings are arranged by the Ministry of Treasury, Economics and Intergovernmental Affairs, bringing together the regional chairmen of the Toronto centred area and the Provincial Treasurer to discuss issues affecting the entire region. Staff of the Metropolitan Planning Department provide staff assistance to the Chairman's office for these meetings.

(viii) Regional Information Systems Committee

This Committee consists of representatives from the planning

departments of the regions surrounding Metropolitan Toronto. It was created to develop a uniform information system and for the purpose of monitoring the future plans of the respective regions.

(ix) Metropolitan Toronto Public Utilities
Coordinating Committee

This Committee, which has been operational since early 1954, is a technical body comprising senior officials of all Utilities and Area Municipalities within the Metropolitan Toronto area. It is concerned primarily with interrelationships between utilities and municipalities, solving problems involved in the coordination of utilities, plotting plans of existing services, and the planning and accommodation of future services within public road allowances.

(x) Metro Centre Transportation Terminal
Task Force

This is a special ad hoc committee comprised of representatives of the federal government, the City of Toronto, Metropolitan Toronto, TATO, the T.T.C., the Ministry of Transportation and Communications and both CN and CP Railways. It was established in January 1974 to deal with special transportation problems related to the development of Metro Centre and is chaired by the Chairman of TATO.

Chapter 3

THE ENABLING LEGISLATION

3.1 INTRODUCTION

This chapter concerns the various legislation relating to transportation planning and operation in the Metropolitan Toronto area. The intent here is not to describe each piece of legislation in detail, but merely to summarize its main thrust, and to show how it relates to transportation in Metropolitan Toronto. The reader interested in more detail can refer to copies of the statutes themselves, which are readily available. Most of the relevant legislation comes from the Province. The federal government is only peripherally involved in urban transportation within Metropolitan Toronto, although it does regulate air, water and rail transport. Some of the relevant municipal by-laws are also considered.

The chapter is divided into a number of sections including provincial legislation related to municipalities, provincial legislation related to transportation, and provincial legislation creating regional governments (most specifically Metropolitan Toronto). Some of the Metropolitan and local by-laws related to transportation and finally some of the relevant federal statutes are also considered.

3.2 LEGISLATION RELATED TO MUNICIPALITIES

(i) The Municipal Act (R.S.O. 1970, c. 284)

The Municipal Act defines the basic structures and powers of the municipalities within the Province of Ontario, i.e. towns, villages, cities and regional governments, and their relationship to the Province. It provides the framework for municipal incorporation.

(ii) The Planning Act (R.S.O. 1970, c. 349)

The Planning Act defines the rights and obligations of Ontario municipalities with respect to urban planning and the preparation and approval of an Official Plan, zoning by-laws, and similar planning instruments.

(iii) The Ontario Municipal Board Act (R.S.O. 1970, c. 323)

This Act defines the powers and functions of the Ontario Municipal Board. These powers date from 1932, a time when about 30 municipalities in Ontario defaulted on their debts and effectively were bankrupt.

3.3 LEGISLATION RELATED TO TRANSPORTATION

(i) The Public Transportation and Highway Improvement Act

(R.S.O. 1970, c. 201)

This Act is important in defining the financial context for transportation planning, construction of facilities, and operation, because it sets the provincial subsidy levels for roads and transit. Currently, expenditures properly chargeable to "road improvements" in Metro and the area municipalities are subsidized by the Province at 50 percent. The current subsidy for capital expenditures on transit is 75 percent. Up to 50 percent of transit operating deficits are also subsidizable under this Act.

(ii) The Highway Traffic Act

(R.S.O. 1970, c.202 as amended, 1975)

This Act defines the regulation, either directly or as a context for municipal by-laws, of all vehicular traffic on roads in the Province. All municipal by-laws regulating traffic and motor vehicle operation must be consistent with the provisions of this Act.

(iii) The Public Vehicles Act

(R.S.O. 1970, c.392)

This Act governs the movement of people in public vehicles, mainly buses, in Ontario. School buses are included. Operating licenses are required, and are obtained from the Ontario Highway Transport Board, which is the regulating body under this Act.

(iv) The Public Commercial Vehicles Act

(R.S.O. 1970, c.375)

This Act regulates the movement of commercial goods in Ontario by common carrier, i.e. by vehicles for hire. This P.C.V. license is obtained from the Highway Transport Board, which administers the Act. Trucks which operate exclusively within Metropolitan Toronto only obtain cartage licenses from the Metropolitan License Commission, and do not require the P.C.V. license.

(v) Commuter Services Act

This Act gives the Transportation Operations Branch of the Ministry of Transportation and Communications the authority to operate commuter transport services, specifically GO Transit. The latter has now been taken over by TATO.

(vi) The Toronto Area Transit Operating Authority Act, 1974

This Act established the Authority, defined its powers, and defined the representation.

(vii) The Expropriations Act
(R.S.O. 1970, c. 154)

This Act defines the expropriating powers of government agencies in the Province, and all provincial and municipal rights-of-way are obtained under its authority where necessary. The procedures for compensation are defined in the Act.

3.4 LEGISLATION RELATED TO REGIONAL GOVERNMENT

(i) The Municipality of Metropolitan Toronto Act
(R.S.O. 1970, c. 295)

This Act defines the powers and obligations of the Municipality of Metropolitan Toronto. The Act defines the operation of the Metropolitan road system, and its financing, within the constraints of other legislation. The Toronto Transit Commission is established under this Act, and its powers and duties defined. The Commission "shall consolidate and co-ordinate all forms of local passenger transportation within the Metropolitan Area, with the exception of steam railways and taxis". The powers and duties of the Licensing Commission are also defined, as well as the Metropolitan planning function.

(ii) Regional Government Acts

There are Acts setting up the Regional Municipalities surrounding Metropolitan Toronto: York (R.S.O. 1970, c. 408), Peel (1973, c. 60) and Durham (1973, c. 78).

3.5 METROPOLITAN AND LOCAL BY-LAWS

(i) Uniform Traffic By-law

The Uniform Traffic By-law replaced the separate traffic by-laws of Metro and the area municipalities in 1958, and now is in force throughout Metropolitan Toronto, eliminating the previous inconsistencies.

(ii) Parking

Street parking is regulated by the area municipality under by-laws which specify where parking, standing or stopping is restricted or prohibited, and what fines may be imposed for violations of the regulations. Public off-street facilities are licensed under a Metro by-law by the Metropolitan Licensing Commission. Parking requirements within structures are defined by area municipality zoning by-law.

(iii) Taxicabs

Taxicabs are regulated by the Metropolitan Licensing Commission under a Metropolitan Toronto By-law.

3.6 FEDERAL LEGISLATION

The Toronto Harbour Commission is a federal corporation created by the Toronto Harbour Commissioners' Act of 1911. It operates both the Toronto Harbour and the Island Airport.

Under the provisions of the Federal Railway Act, a fund known as the Railway Grade Crossing fund (discussed above under Canadian Transport Commission) was established in 1909 to assist towards the cost of constructing works for the protection of the public wherever a highway crossed a railway line at rail level. Since 1974, these funds have fallen under the new Railway Relocation Act, which also provides subsidies for railway relocation.

International and inter-provincial highway transport is regulated by the Federal Motor Vehicle Transport Act, but responsibility in this area has been delegated to the Province.

Chapter 4

OPERATION OF THE TRANSPORTATION SYSTEM

4.1 INTRODUCTION

In the previous chapters, the public agencies responsible for planning, construction and operation of the transportation system are described together with an overview of the enabling legislation relevant to the process. This chapter focuses on the roles of these various agencies in operating the transportation system. The description of the operation is structured in terms of modes, because there are major differences among them, and different performance criteria. The modes considered are: transit (including commuter rail), roads (including parking), goods movement, taxicabs, and pedestrians and bicycles.

4.2 TRANSIT

The Toronto Transit Commission provides all transit services within Metropolitan Toronto. The Toronto Area Transit Operating Authority is responsible for inter-regional service, and there are a number of local operators in the peripheral areas, some of whose services cross the Metro boundary.

Although there are a number of transit operators in the Toronto commuter-shed, the Toronto Transit Commission is larger by an order of magnitude than any of the others as is shown by the data on transit ridership in Figure 4.1. The figures for Metro are somewhat inflated because passengers crossing the fare-zone boundary which existed at that time (about 10 percent of the total), were counted twice, but the numbers are sufficiently accurate to show the relative magnitudes. The T.T.C. served over 300 million trips, while the next largest system, Oshawa, had slightly over 3 million. The T.T.C. accounts for almost 70 percent of the total urban transit ridership in the Province of Ontario.

The T.T.C. is generally viewed as one of the best transit systems in North America. It has the second highest per capita ridership (behind New York), and is the third largest transit operator in North America, after New York



FIGURE 4.1 ANNUAL TRANSIT TRIPS (1972)

SOURCE: TATO TASK FORCE REPORT

and Chicago. Trends in per capita ridership to 1970 are shown in Figure 4.2 for Canadian cities and for national averages in the U.S. and Canada. The annual per capita riding in Toronto (about 150 since 1965) is more than double the Canadian average which in turn is double the U.S. average.

The T.T.C. operates two subway lines, and a network of 95 diesel bus routes, 10 streetcar routes, 6 electric trolley bus routes, for a total of 111 surface transit routes. Of the latter, 95 routes make 131 connections with the subway, many via direct, undercover connections without any fare or transfer collection necessary. This degree of integration between subways and surface routes is unique among the world's transit systems.

The T.T.C. has approximately 7,000 employees of whom 50 percent are drivers and operators, 30 percent are responsible for equipment maintenance, and 20 percent are support personnel. At the end of 1974, the T.T.C. owned and operated 1,166 diesel buses, 151 trolley buses, 389 streetcars, and 416 subway cars. The number of vehicle miles operated in 1974 were:

bus	39,530,641
streetcar	9,943,186
trolley bus	3,375,091
subway	<u>29,698,262</u>
	82,547,180

The total vehicle mileage represents an increase of about 3.6 million over 1973 despite a major transit strike in 1974.

The present T.T.C. network of routes is shown in Figure 4.3. It is basically a grid configuration which results in the majority of passengers transferring in order to complete their journeys. The most important component of this grid is the 25.6 mile subway system, made up of the 10 mile Yonge Street line, the 2.4 mile University Avenue line, and the 14.2 mile Bloor-Danforth line. The Spadina line, currently under construction, will run from Bloor to Wilson, and is due to be opened in 1978. Service is offered approximately every 2 minutes on the Yonge/University lines and every 3 minutes on the Bloor-Danforth line. The subway operates from 6 AM (9 AM on Sundays) to 2 AM, and is replaced by surface buses in the early morning interval, connecting with a number of all night bus routes.

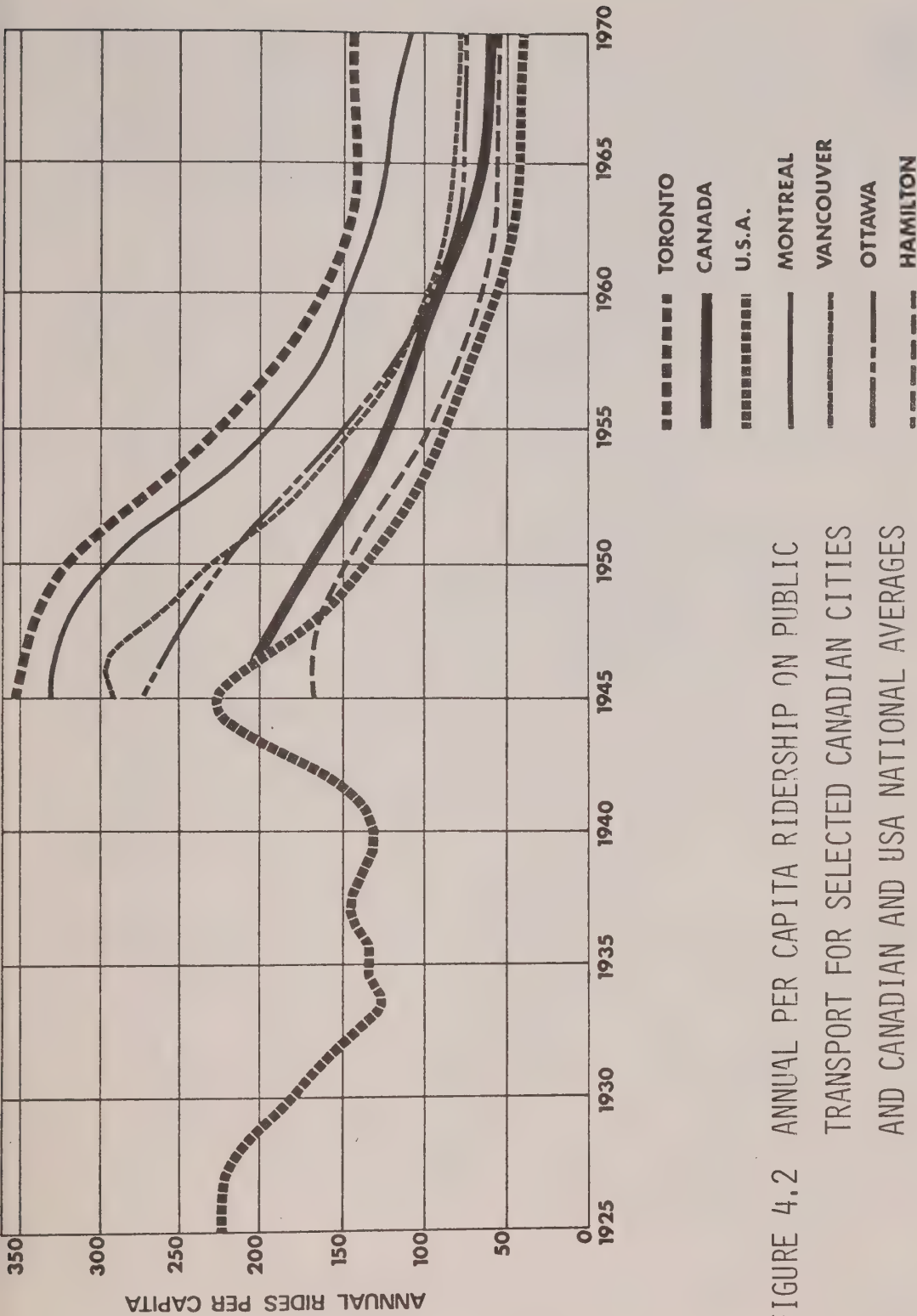



FIGURE 4.2 ANNUAL PER CAPITA RIDERSHIP ON PUBLIC
TRANSPORT FOR SELECTED CANADIAN CITIES
AND CANADIAN AND USA NATIONAL AVERAGES

SOURCE: M.T.T.P.R. REPORT #18

METRO TRANSIT SYSTEM



- Subway System
- Regular Surface Routes
- Rush Hour Only Surface Routes
- Streetcar
- Street Names
- GO Transit Rail System
- GO Bus-Only Routes
- Major Highways
- Subway connect on with Express Bus to Airport
- Mississauga Transit connection
- Markham Transit connection
- Subway Park & Ride Lots (See Subway Station Index)



SUBWAY STATION INDEX

Station numbers shown are on major parallel streets served by the subway.

1. FINCH	24. ROYAL YORK
2. SHEPPARD	25. OLD WALK
3. YORK MILLS	26. JANE WATSON
4. ELLIOTTON	27. HON PARK
5. DAVENPORT	28. DAVENPORT
6. DAVENPORT	29. DAVENPORT
7. ST. CLAIR	30. DAVENPORT
8. ST. CLAIR	31. DAVENPORT
9. ST. CLAIR	32. DAVENPORT
10. DUNDAS	33. DAVENPORT
11. DUNDAS	34. DAVENPORT
12. DUNDAS	35. DAVENPORT
13. DUNDAS	36. DAVENPORT
14. DUNDAS	37. DAVENPORT
15. DUNDAS	38. DAVENPORT
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71. DUNDAS	94. DAVENPORT
72. DUNDAS	95. DAVENPORT
73. DUNDAS	96. DAVENPORT
74. DUNDAS	97. DAVENPORT
75. DUNDAS	98. DAVENPORT
76. DUNDAS	99. DAVENPORT
77. DUNDAS	100. DAVENPORT

PLACES OF INTEREST

(In addition to those shown on map on other side)

27. Etobicoke Municipal Offices	34. Edwards Gardens
28. Woodbine Race Track	35. Earl York Municipal Offices
29. James Gardens	36. Don Mills Golf Course
30. York Municipal Offices	37. Scarborough Town Centre
31. Pioneer Village	38. North York Municipal Offices
32. North York Municipal Offices	39. Metro Toronto Zoo
33. Don Valley Golf Course	

POCKET TIME TABLES ARE AVAILABLE FOR THESE BUS ROUTES

1. FINCH	2. FINCH	3. FINCH	4. FINCH	5. FINCH	6. FINCH	7. FINCH	8. FINCH	9. FINCH	10. FINCH
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91. FINCH	92. FINCH	93. FINCH	94. FINCH	95. FINCH	96. FINCH	97. FINCH	98. FINCH	99. FINCH	100. FINCH

The heaviest surface routes involve streetcar and trolley coach operation. In the rush hour, streetcars, trolley coaches and diesel buses provide "crush" loading capabilities of 5000, 3000, and 3600 passengers per peak hour direction respectively. By contrast, the maximum capacity of a subway line in the peak direction is about 40,000 passengers per peak hour. It is understandable therefore that the transit routes focus on the subway.

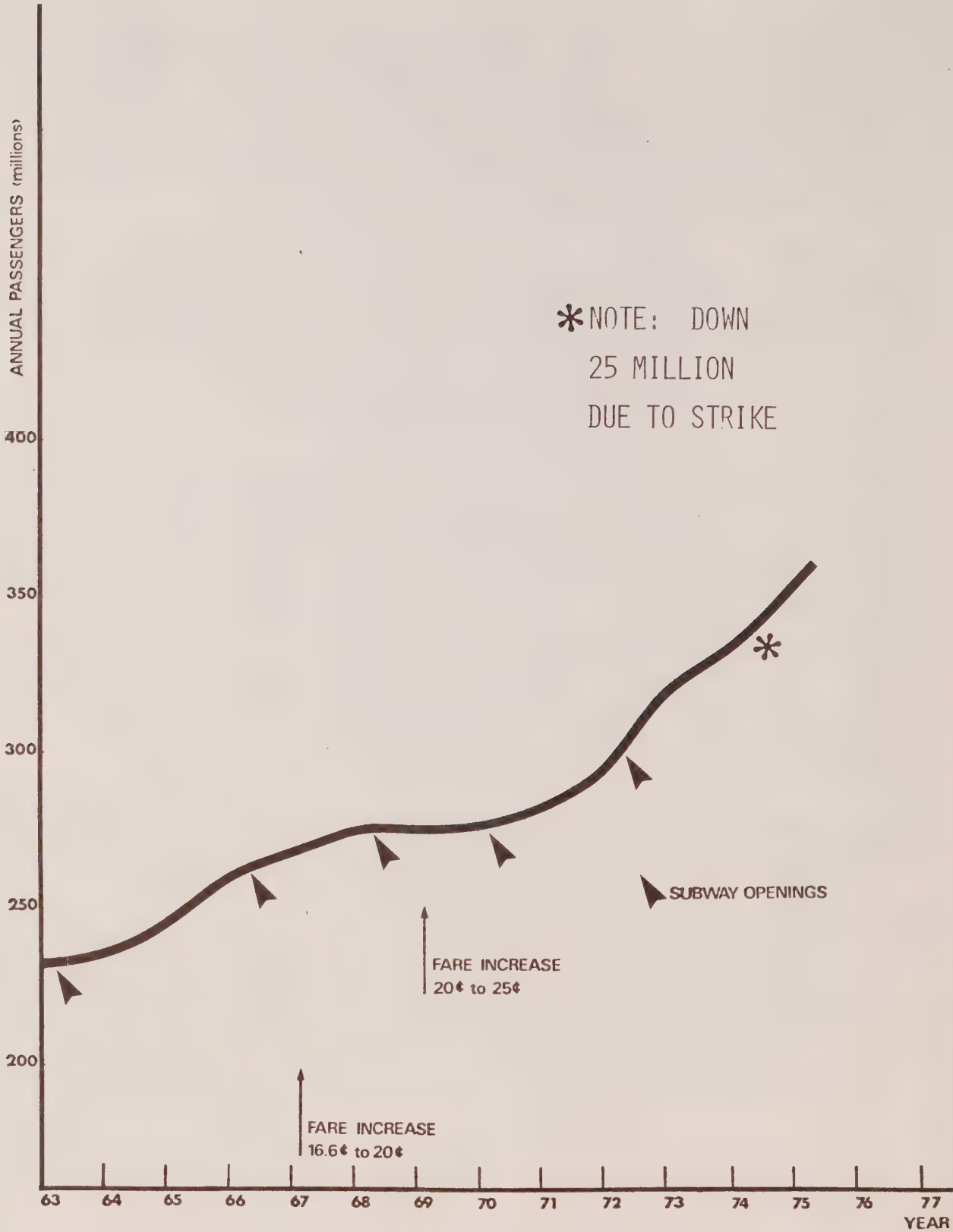
Transit ridership in Toronto has been growing steadily in absolute terms over the past decade, as shown in Figure 4.4. The increase in 1973 was due in part to the elimination of the two-zone fare, which reduced the cost of longer trips from the suburbs. The level of service provided is quite good. Those living near the subway have travel times by transit that are competitive with automobile travel times.

In many areas, however, travel by transit is considerably longer than by private automobile. These generally involve areas not served by the subway system where surface transit is slow due to road congestion during peak periods and due to infrequent service in off peak periods. Local surface transit operation is often hampered by the lack of exclusive rights of way on road facilities. For this reason travel by automobile is superior along corridors served by limited access highways 401, 427, 400, the Don Valley Parkway, Lakeshore Boulevard, the Gardiner Expressway, and the Queen Elizabeth Way. Transfer times also contribute to the relatively poor performance of transit service in some areas.

The subway service is generally excellent. The safety record is exceptional, cars are comfortable in terms of ride, and are among the quietest in operation. Stations and cars are clean and well maintained. However, during peak periods, loading on the Yonge line south of Bloor is extremely heavy, and congestion has extended up to Eglinton due to the opening of the northern extension. Almost the same situation can be found on the Bloor-Danforth trains between Sherbourne and Bathurst during peak periods. The Spadina line will provide some relief and staggered working hours will also help, but peak congestion will continue to be a problem.

The provision of service within the constraints of capacity and economic operation is carefully regulated. One of the strengths of the T.T.C. is its ability to adjust rapidly to

FIGURE 4.4 TRANSIT RIDERSHIP



SOURCE: M.T.T.P.R. REPORT NO. 18

changes in demand. A team of service checkers in the planning department is constantly making point counts of ridership; these are reviewed and the service is adjusted to ensure that demand is met without excessive overcrowding or wasteful vehicle mileage. The T.T.C. makes these adjustments 11 or 12 times each year whereas most large transit operators in other cities make such adjustments only four times or less annually.

The basic fare has been 30 cents cash or 4 rides for \$1.00 since 1969. The two zone system was abolished in January, 1973, and one fare covers Metro. There are reduced rates for students, children, and senior citizens. A fare increase to 3 rides for \$1.00 or 40 cents cash fare for adults has been implemented as of April 1, 1975.

In general, therefore, the transit service provided by the T.T.C. is of a high standard relative to other operations in North America. The T.T.C. also provides special services, including school buses, chartered vehicles, airport service to the subways, and services for the Canadian National Exhibition, Ontario Place, Woodbine Race Track, and major sporting events. A number of services extending beyond the Metro boundary are provided under contract.

The Toronto Transit Commission has also operated experimental services for the Provincial Government, most notably the Dial-a-Bus services in North York. The full capital costs and operating deficits of such services are paid for by the Ministry of Transportation and Communications.

As discussed in Chapter 2, all trunk line transit services in Peel, York and Metro that cross regional boundaries are under the control of the Toronto Area Transit Operating Authority. The major responsibility of TATOA is with respect to GO Transit, which was taken over from the Ministry of Transportation and Communications in 1974. TATOA currently has a staff of about 50, most of whom are connected directly or indirectly with the operation of GO Transit.

TATOA does not directly operate transit services in the way that T.T.C. does. Services offered by TATOA are operated under contract by CN or by bus operators. In the case of commuter rail services operated by CN, TATOA owns the rolling stock, which consists of 15 locomotives (with 4 more on order), 9 self-propelled cars, 84 coaches (with 30 more on order), and 5 auxiliary power control units (with 4 more on order). The operation of the rail

equipment is the responsibility of Canadian National, who provide ticketing staff, operators and maintenance staff.

There are three rail lines as shown in Figure 4.5: Hamilton/Oakville/Toronto, supplemented with buses between Hamilton and Oakville; Pickering/Toronto, supplemented with buses between Oshawa and Pickering; and Georgetown/Toronto. The Lakeshore services to Oakville and Pickering carry about 24,000 passengers daily on 26 to 28 trains in each direction (with reduced frequency on weekends). The Georgetown service carries about 2900 passengers daily and is limited at present to three trains inbound in the morning and three trains outbound in the evening (with no service on weekends).

TATOA also contracts services to Gray Coach and Travelways who respectively operate 54 and 4 buses that are owned by TATOA. Bus service is provided to Toronto from Hamilton, Oshawa, Richmond Hill, and Newmarket. The Hamilton bus line carries about 5000 people per day, the Newmarket bus line 2600, Oshawa 2600, and the Richmond Hill bus line about 900. In summary then, bus services provided by TATOA serve about 11,000 people daily in comparison to about 27,000 served by rail.

The operations of the local operators in the Regional Municipalities around Metropolitan Toronto have only marginal effect at present on Metro itself. As shown in Figure 4.1, the scale of operation of these local operators is very small, relative to the T.T.C. and GO Transit. Oshawa and Mississauga have the largest systems in the peripheral area, but even they each carry less than 1 percent of the T.T.C. ridership. For purposes of this analysis, there is no need to discuss local operations beyond the information provided in Chapter 2.

4.3 ROADS

Roads can be classified in terms of jurisdiction and function. The responsibility for planning, building and maintaining roads for public use falls into three major categories: Provincial; County, Regional and Metropolitan; and Municipal. Roads are conventionally divided into four functional classifications: freeways, arterials, collectors and locals.

The Ontario Ministry of Transportation and Communications is responsible for a province-wide network of King's Highways linking all major centres of population. This

network involves over 10,000 miles of road. Several King's Highways traverse the Metropolitan Toronto area: 401, 427, and the Queen Elizabeth Way. The Province has exclusive jurisdiction over some of these, while some are under local or regional jurisdiction.

The Regional Municipalities in the area (including Metropolitan Toronto) are responsible for an "upper tier" network of roads that supplements the King's Highway system, providing additional links among smaller communities and serving major industrial and commercial developments and other heavy traffic generators. Within Metropolitan Toronto, 430 miles of road, including most of the major arterial streets, are designated as Metropolitan Roads, under the jurisdiction of the Municipality of Metropolitan Toronto and administered by the Department of Roads and Traffic. Included as Metropolitan Roads are sections of King's Highways 2, 5, 11, 11A, 48 and 50.

All roads not falling into the above classifications, excluding private roads, fall into the "lower tier" classification, and are the responsibility of the local municipality in which they lie. Figure 4.6 illustrates the basic road system in the Toronto area, and indicates the first two levels of jurisdiction. It is not feasible at this scale to show the full network of roads under local municipal jurisdiction.

Each county and regional municipality, as well as the Municipality of Metropolitan Toronto, is periodically required by the provincial government to conduct a "Needs Study", to identify desirable improvements, additions and deletions to the upper tier road system.

In addition to the above jurisdictional classification, there is a functional classification. A freeway is a multi-lane divided road with full control of access. Intersections are grade separated, and are usually at arterial roads or streets; only in more remote areas are occasional at-grade crossings provided. Freeways are designed to provide a relatively high level of service for longer trips and in the Toronto area include the Queen Elizabeth Way, Highways 400, 401 and 427, the Don Valley Parkway, the Gardiner Expressway and the partially-built Allen Expressway.

An arterial is usually a continuous route, serving several communities and intersecting at grade with other roads.

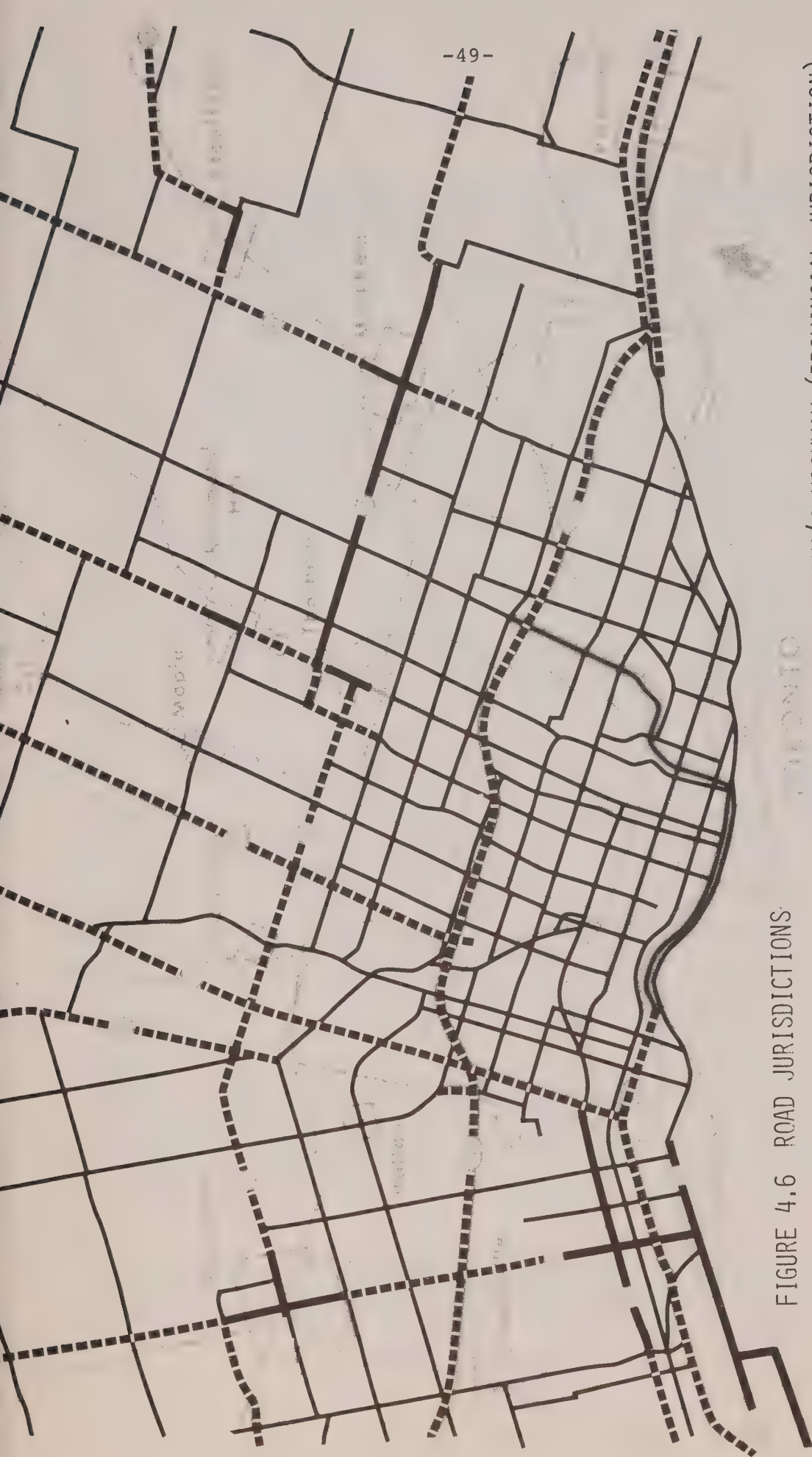


FIGURE 4.6 ROAD JURISDICTIONS

- KING'S HIGHWAY (PROVINCIAL JURISDICTION)
- KING'S HIGHWAY (MUNICIPAL JURISDICTION)
- COUNTY, REGIONAL & METROPOLITAN ROADS

SOURCE: M.T.T.P.R. REPORT #7

It is intended to serve medium-distance movement, and to link up with the freeway system. Most urban arterials range from 4 to 8 lanes in width. Since their prime purpose is to move traffic, direct access to adjoining properties should ideally be restricted as much as possible, but in older areas and in "strip" development this is rarely feasible.

A collector road acts as an intermediate distributor between arterials and local roads. Local roads and streets primarily provide access to abutting properties; they connect to the collector and arterial systems. They are not intended to carry significant through traffic, although this does occur when parallel collectors and arterials become overloaded. This overloading of local streets occurs in a number of locations within Metropolitan Toronto, leading to restrictions on traffic flow by means of one-way street systems, traffic mazes, barricades, turn prohibitions, and speed control devices. Most of these restrictions fall under the jurisdiction of area municipalities, but Metropolitan and provincial approval are often required under The Highway Traffic Act for such changes.

Almost every intersection in the area is subject to some form of sign or traffic signal control. Traffic signals are the most common form of intersection control on arterial roads. Within Metropolitan Toronto there are about 1,000 traffic signal installations under the control of the Metropolitan Toronto Department of Roads and Traffic, and over 90 percent of them are linked to a central computer control centre. About 70 of the signals, mostly in locations where traffic volumes show considerable variation, are fully traffic responsive. Most of the other signals operate on automatic cycles, but the computer is employed as a remote control to link adjacent signals or to vary timing of signals at different periods of the day.

Other forms of traffic control devices include pavement markings (lane, centre and edge lines, stop and turn markings), regulatory signs restricting turns, identifying one-way streets, specifying speed limits, etc., and special measures such as reversible lane markers and automatic ramp barriers. These devices are placed and maintained by each jurisdiction on its own roads.

The level of road service within Metropolitan Toronto is good relative to comparable size cities in North America. The computer-controlled traffic signals help assure efficient

use of arterial road capacity. However, auto travel demand has increased greatly over the last few years, and few major additions have been made to the road network (with the exception of improvements to some provincial highways in the area). The Metropolitan Toronto arterial system is a well-developed grid providing continuity of travel through much of the Metro area, although some major discontinuities do exist. There is no convenient access by freeway to downtown from north-west Metro or from the southern part of Scarborough. There is severe peak period congestion on freeways and arterials serving the downtown. Some of these facilities have reached their capacity, and the length of the congested period is increasing. However, there is little or no congestion on the freeway system at off peak periods.

The majority of all trips in the Toronto-centred area are made by automobile. There are no recent origin/destination data available, but some estimates for 1971 have been made by the Ministry of Transportation and Communications based on extrapolations of data from the major travel survey carried out in 1964. During a typical 24-hour weekday in 1971, 5.31 million trips were estimated to have been made in the Toronto commuter-shed, 84 percent by auto and 16 percent by transit. Of the total estimated trips, 1.86 million were home-based work trips, 74 percent by auto and 26 percent by transit. There were an estimated 3.45 million non-work trips; 89 percent by auto, and only 11 percent by transit.

These estimates are for the entire area, and within Metropolitan Toronto the use of transit, especially for work trips, is estimated to be considerably higher. However, autos still account for the bulk of travel within Metro. It was estimated that in 1969, autos accounted for 5.9 billion person/miles of travel, while transit accounted for 1.45 billion, a ratio of about four to one for all trips. This preference for use of the auto clearly indicates that travel by transit must be made more attractive if dependence on the private automobile is to be reduced.

4.4 PARKING

Parking is closely related to the road system and to some extent to the transit system, but its operation is quite separate. There are a number of categories for parking

including on-street parking (free, metered or permit), municipal off-street public parking, commercial off-street public parking, and private parking.

Metro regulates parking on its roads and on local streets within 100 feet of a traffic signal, the City and boroughs on remaining local streets. Boulevard parking, i.e. on the road right-of-way but off the street, requires a special license; these are available in the City and in the Borough of York. There are over 10,000 meters on Metro roads and local streets, all operated by the local municipalities: 76 percent of these meters are within the City, evenly split between Metro roads and local streets. Overnight street parking is allowed by permits, but due to the issuance in some areas of more permits than available spaces, the whole policy is now being reviewed. Many of the older residential areas do not have sufficient off-street parking.

The degree of active interest in municipal off-street parking from one area municipality to another is directly related to the extent of its densely built, congested older areas. The City of Toronto and in a much smaller way, the Borough of York, are the two area municipalities most actively engaged in the parking business, with about 11,000 and 500 spaces respectively. The City of Toronto Parking Authority also operates about 3,000 spaces outside the City at subway stations on land rented from Metro for nominal amounts. North York and Etobicoke have considerable street metering and are providing some off-street parking in their older commercial areas. East York has a substantial number of street meters but no off-street parking. Scarborough operates only a very few street meters and has one metered off-street lot at the City boundary.

The age and density of urban development throughout Metropolitan Toronto is reflected in the extent of public parking that is provided through commercial parking-lot operators. With but two or three exceptions, the commercially operated lots all lie within the City of Toronto. Within Metro, there are approximately 175 commercial lots accommodating some 27,000 vehicles. Considering Metropolitan Toronto as a whole, commercial parking provides almost two-thirds of the off-street parking spaces. Within central Toronto, where parking problems are most acute, the commercial operators are responsible for close to three-quarters of the total capacity. Central Toronto has over 16,000 private non-residential parking spaces, but data on Metro-wide private parking are not available. In addition to the

approximately 4,000 parking spaces provided at subway stations, about 1,700 spaces are provided at GO Transit stations within Metro and another 3,600 outside Metro.

The fees at municipal lots are set by the Authority or relevant Department, subject to review by the Council. At present, Toronto lots in the central business district are encouraging short term parking and charging high fees for all-day parking. The commercial lots set their own rates. The lots at subway stations have low fees, and the GO Transit lots are free.

4.5 GOODS MOVEMENT

Of inbound goods to the Metropolitan Toronto area, about 20 percent arrive by rail, 10 percent by water, and 70 percent by road. Of goods leaving Metro, about 88 percent do so by road, 10 percent by rail, and less than 2 percent by water. Air freight accounts for less than 1 percent, both inbound and outbound. Rail, air and water rely heavily on trucks for distribution and collection, so one can see that almost all goods are carried by truck at some stage of their journey. For this reason, the discussion here concentrates on road transport, but it should be noted that air, rail and water terminals generate truck traffic that must be taken into account in road planning.

Almost all goods movement is carried out by the private sector. Traditionally, road transport is divided into two basic categories: "for hire" and "private", i.e. those that haul other people's goods for a fee, and those who haul only their own goods, respectively. The "for hire" operators include inter-city express companies, inter-city motor carriers (common and contract), and local cartage and parcel delivery companies. The "private" operators include inter-city operations, mainly between plants, warehouses and retail outlets, and local pick-up and delivery, for everything from pizzas to heating oil. Inter-city road movements in general leave the city at the end of a working day and travel overnight whereas intra-city pick-up and delivery generally must take place during the working day.

The efficiency of the goods movement system is determined by two factors: road access and ease of loading and unloading. Trucks account for between 15 and 20 percent of all vehicle trips made in the area on a typical weekday. However, within urban areas, only about 20 percent of the time is spent actually moving over the road system. The rest of the time is spent loading and unloading or waiting. This limits

the travel time savings that can be achieved by road improvements; if road speeds were doubled, only 10 percent of the average truck's total time would be saved.

The last comprehensive origin and destination survey of truck movements in Toronto was undertaken in 1955, so data are very limited. On an average 12-hour weekday in 1971, cordon counts indicated that about 45,000 trucks entered the Central Area of Toronto, 33,000 crossed the Humber River screenline from west to east, 21,000 crossed Victoria Park Avenue from east to west, and 54,000 crossed Eglinton Avenue from north to south. (A cordon is an imaginary boundary line surrounding an area, and a screenline is a dividing line between two areas.)

The loading facilities are inadequate in many buildings, especially in the downtown area. The existing zoning by-laws are not very stringent with respect to loading bays relative to the truck traffic generated by various activities. Thus trucks often load and unload on streets and reduce road capacity.

4.6 TAXICABS

Taxicabs in Metropolitan Toronto are operated by private individuals and companies, and regulated by the Metropolitan Licensing Commission. The number of licensed taxis within Metro is limited to one vehicle for each 975 persons, resulting in a current total of around 2,200 cabs. The supply of taxis tends to be higher in the City of Toronto than in the suburbs. There are no regulations requiring owners or drivers to provide even a minimum amount of overall service at any given time. However, once a driver places his taxicab in operation on a public street he is required to provide service to the public. Dispatching is fairly efficient: about 80 percent of the taxis are equipped with two-way radios. Taxi stands in Metropolitan Toronto are of two types, public and private. Public stands are restricted to owner-operated taxicabs having no affiliation with a broker or cooperative. Private stands are provided at private developments, e.g. hotels, race tracks and shopping centres, and may be open to all taxicabs or restricted by agreement to one specific firm. In addition, some taxicab companies and cooperatives provide a considerable number of private stands, that are restricted in use.

Taxicab licenses are quite difficult to obtain in Metro. There are two lists of applicants for licenses - the

Driver's List, for those who do not yet own a cab, and the Owner's List, for those who already own a number of cabs and hire drivers. When new licenses are issued, 50 percent go to each group. Any owner who sells a licensed taxicab has his name removed from the list, but the current asking price of about \$20,000 provides some incentive to sell. Although exact figures are hard to come by, indications are that fleet operators get a reasonable return on investment. However, the pay rates for drivers are considerably lower than for, say, transit operators.

Taxi services in Toronto rate well compared with other metropolitan areas on this continent, yet it is generally acknowledged that they fall short of the notably high standards set by the taxi industry in London, England. Problems regarding service at the Toronto International Airport, which is outside the Metro boundary, have been quite serious due to lack of effective regulation.

4.7 PEDESTRIANS AND BICYCLES

Movements on foot and by bicycle are a relatively small proportion of travel mileage within Metropolitan Toronto, but they should not be ignored. Walking and bicycling are often done for enjoyment, rather than only for getting from one place to another, so the characteristics to be considered are somewhat different.

All sidewalks in Metro are built and maintained by the area municipalities, even those along Metro roads. In addition, there are private walkways, for instance in office and shopping developments, many of them sheltered from the weather. There are only a few places in Metropolitan Toronto where pedestrian congestion occurs: Yonge/Bloor subway station, and parts of Yonge, Bay and King Streets in the downtown. Temporary pedestrian malls have been tried, for instance, on Yonge Street.

Bicycle sales have increased greatly over the past five years, and bicycles are quite visible during the summer in Metro. It is estimated that the number of adult bicycles may be around 100,000 and childrens' bicycles as high as 300,000; registration is not compulsory, so exact figures are not available. Bicycles come under the Highway Traffic Act, but laws regarding bicycles are not rigidly enforced. The accident rate for adult bicyclists is about three times as high as that for children.

The number of bicycle paths in Metro is low compared to some other cities. Some Metro parks specifically allow

bicycles on roads and paths, and Metro and the area municipalities provide some cycle paths: Eglinton Avenue in Etobicoke, along the Beaches, and on Toronto Island. The separate rights of way do not constitute an integrated system. The Metro Department of Roads and Traffic and some area municipalities have plans for providing more bicycle facilities.

Chapter 5

TRANSPORTATION PLANNING

5.1 INTRODUCTION

In the broadest sense, planning can be defined as simply taking into account future consequences of present decisions and actions. Urban planning is traditionally concerned with land use, transportation, services, and environment. Urban transportation planning can be considered part of urban planning, because transportation is so closely related to land use: transportation demand is shaped by land use patterns, and land use patterns are influenced by the configuration of transportation facilities. However, there are also more specialized kinds of transportation planning that are not part of urban planning.

The transportation network is a subsystem of the city, and its planning occurs at a number of levels. First, there is strategic transportation planning, which examines broad long-range options and policy issues; this activity must be carried out in close conjunction with overall urban planning. The results of such a process tend to be abstract, however, and often consist mostly of an "end-point" which should be reached in 20 or 30 years. By itself, such a "plan" is not very meaningful; it must be related to decisions that are being taken now and in the near future. The phasing of transportation projects through time, and the levels of service provided at intermediate points, are quite important. The transportation demands implied by land development decisions must also be monitored. These activities are all part of transportation planning in the broad sense, and must be carried out in conjunction with strategic planning.

In addition, there are three other levels of transportation planning that involve:

- functional planning, which determines where facilities should be built once overall policies have been determined, and what kind of facilities they should be;
- project planning, where the phasing of specific projects is determined;

- operational planning, where the future operation of a system is determined on the basis of present performance, for instance in a transit system.

The question of values, or what is "best", is a very difficult one in transportation planning. The planner's role basically is to determine the alternatives, and then, through analysis, predict their implications. The politicians and the citizens should then determine which set of implications they like "best". There are problems with this process however. Often, the technical implications are quite complex, and have so many qualifications, that the planner is asked for a "recommendation", which is sometimes taken as the decision. In addition, the benefits and costs of different alternatives vary among different groups of citizens, so that conflicts develop. The wishes of those groups that are highly organized and vocal naturally carry more weight in the decision-making process. Also, people tend to value short-term benefits over long-term ones, so strategic planning is difficult to implement. The following sections look at the transportation planning activity in the Metropolitan Toronto area in the light of all these issues, concentrating on strategic planning.

5.2 THE TRANSPORTATION PLANNING PROCESS IN THE TORONTO AREA

The preparation of a transportation plan at the municipal and regional levels falls largely under the Official Plan process. The major mechanism for implementing an Official Plan is zoning control, and this rests with the area municipalities; the regional governments, including Metropolitan Toronto, have no zoning powers. The regions have or are developing Official Plans, which must agree, through a process of negotiation, with the plans of the area municipalities. As pointed out in Chapter 2, the area municipalities generally do not have strategic transportation planning capabilities (or responsibilities); this function is carried out at the regional and provincial levels. Metropolitan Toronto has a Plan that was prepared in 1966 but was never presented to the Province for approval, and is thus not an Official Plan. The Regional Municipalities of Peel, York and Durham are now preparing Official Plans and have carried out some strategic transportation planning.

Since Metropolitan Toronto was formed in 1954 and given jurisdiction over certain roads and public transit, a number of transportation planning documents have been prepared.

(i) 1959 Preliminary Transportation Plan

In 1956 the Traffic Research Corporation was contracted by Metro to develop computer models for transportation planning. The model was operational by 1958, but was not used to any significant extent in developing the 1959 Preliminary Transportation Plan, which was essentially a compendium of proposed transportation facilities. The 1959 Preliminary Transportation Plan discussed a number of factors that interact with transportation, and was in fact quite comprehensive in this respect. For instance, with respect to land use and transportation it stated:

....transportation facilities are major land users. Their impact on land use extends of course, far beyond the area they actually occupy. The impact is both positive and negative. The availability of transportation attracts development, but the noise and vibration and, in many cases, the air pollution generated by traffic may adversely affect residential and other land uses.

While the type and density of land use is thus influenced by the type and availability of transportation facilities, the development of these facilities is similarly influenced by land use development....

In deciding which comes first, the land use or the transportation facilities, planning must be objective. Those elements for which the requirements are most critical and which, therefore, are most limited in their choice of location, must be determined first, and others adjusted to them in a descending order of priority.

However, the Plan was "derived by estimating the traffic demands generated by the future distribution of land uses and of the activities connected with each land use, and by assigning the resulting travel volumes to the various transportation facilities". That is, the encouragement of specific land-use patterns through transportation planning was not seriously considered.

(ii) 1964 Report on the Metropolitan
Toronto Transportation Plan

The 1964 Report on the Metropolitan Toronto Transportation Plan evolved from the 1959 Plan, and discussed some of the same issues using technically more sophisticated methodology, namely the Traffic Prediction Model. Four basic issues were to be considered in the 1964 Report:

1. The shortcomings or suitability of the Preliminary Transportation Plan;

2. The probable effect which changes in certain critical factors, such as speed, time and cost of travel might have on the utilization of the transportation system;
3. The arrangement of transportation facilities (road, rail, transit) to establish a "balanced" transportation system on the basis of the presently recognized travel motivation and behaviour characteristics...; and
4. as a result of the above studies, the development of a revised transportation plan.

The criteria used to evaluate the alternative transportation systems tested on the Traffic Prediction Model were the following:

1. Minimize total travel time
2. Maximize average travelling speed
3. Minimize points of congestion
4. Equalize accessibility within most parts of the urban area, and in particular maximize accessibility to the central area. [Emphasis added.]
5. Maximize the use of public transportation, in particular rapid transit
6. Maximize the use of expressways

No attempt was made to rank these criteria, or to explicitly work out trade-offs among them. Other factors were consciously not considered, such as the impact of transportation on land use, which was ostensibly outside the terms of reference (although note the emphasis on accessibility to the central area). Also, no attempt was made to arrive at a "least cost" system, or to evaluate the relative cost/benefit ratios of alternative systems, although existence of these techniques was acknowledged.

There was some inconsistency in the report with regard to the relationship between transportation and land use. One of the basic assumptions was that the transportation facilities are dictated by land use configuration:

The location and capacity of the transportation facilities required to serve the urban area are dictated in large measure by the total traffic generated by the various land uses, which in turn arise out of the level of economic activity, the historic pattern of development, and its planned projection into the future. The preliminary transportation plan for 1980 was based to a large

degree on predictions of development and the analysis of future transportation demands arising from the anticipated urban development.

The Report did not investigate the impact of transportation on land use:

[a] factor which has not been taken into consideration is the general influence which alternative transportation systems may have on the form and nature of urban development. While it is clear that transportation facilities play an important role in determining the dimensions and character of the urban area, it seems evident that the extreme mobility which has been made possible by widespread car ownership has reduced considerably the dependence on any given transportation facility. [Emphasis added.]

The point seems to be that widespread automobile use has reduced in importance the impact of transportation facilities on land use. This argument is certainly no longer true: expressways have had a considerable impact on land use in Metro. The Report continues:

The objective of the present studies has been to determine the most suitable transportation system to serve this development, rather than to arrive at the transportation system most likely to produce a desired form of development.

However, earlier in the Report it is pointed out that simply allowing unconstrained growth is undesirable and the report recognized that:

Increased mobility, achieved through higher average travelling speed, means increased freedom of choice of jobs and homes, as well as shopping, education, and recreation...

It may be of questionable benefit, however, if improved mobility leads to greater dispersal of places of residence and jobs, which would ultimately result in increased total travel mileage and possibly even increased total travelling time. The benefit of increased freedom of choice, which improved traffic facilities can provide, can only be realized if effective land use control counteracts this tendency to "sprawl".

Transportation and land use policies which are governed exclusively by the desire to satisfy demand inevitably create ever growing demands. They must, therefore, be guided by a reasonable concept of land use distribution.

This certainly seems to point out the need for investigating the relationship between transportation and land use, rather than assuming a continuation of land use trends and designing a transportation network to meet the anticipated traffic generation. The Report goes on to state:

Improved accessibility is....an important criterion in evaluating the transportation system. But reduction of total travelling time and increase in average speed may conceal great differences in various parts of the area, and they must therefore be supplemented by criteria which relate to the geography of the area. These are, first, that the points or areas of serious congestion should be kept to a minimum, and second, that accessibility and mobility should be equalized as far as possible in all parts of the urban area, and in particular that accessibility should be improved for those sections of the area where development is particularly desirable. The central area, representing commercial, institutional and cultural forms of the region, must be provided with maximum accessibility, and similarly accessibility should be facilitated for those sectors in which sanitary facilities oriented to Lake Ontario can most effectively be provided.

There are implicit assumptions in this paragraph with respect to the land use development patterns which should be enhanced through the provision of transportation facilities. The stated intentions of the Report and arguments such as the above seem to disagree. One may infer that the "strong single centre" land use is being promoted here, belying the stated intention of not looking at the impact of transportation on development.

The 1964 Plan utilized the Traffic Prediction Model developed by Traffic Research Corporation to simulate a variety of road/transit alternatives:

The Preliminary Transportation Plan of 1959 was for the most part a consolidation of road and transit proposals that had been under consideration by various agencies prior to the formation of the Municipality of Metropolitan Toronto in 1954. The location of the proposed radial expressways was largely determined by the availability of relatively inexpensive rights-of-way linking

the distant suburban developments with the high employment area of the central city. The rapid transit system was also designed to improve suburban accessibility, but was based in large part on the Toronto Transit Commission's expressed policy of replacing high volume streetcar lines with underground subways. [Emphasis added.] With the development of the Traffic Prediction Model it became possible, for the first time, to evaluate simultaneously a comprehensive transportation plan comprising both road and transit networks.

However, interestingly enough, the 1964 Plan differs in only a few details from the 1959 Plan. One aspect of the evaluation procedure used to compare the transit-oriented alternative and the expressway oriented alternative in the 1964 Report was especially critical: both alternatives were tested on the same land use base. This could be misleading, because if a decision were made to implement the transit-oriented system, the land use pattern would evolve in (and probably be guided in) directions that would complement transit rather than the automobile. Therefore, to obtain a fair comparison, the transportation alternatives should be tested with land use patterns that are consistent with the modal emphasis.

(iii) 1966 Official Plan for Metropolitan Toronto

The 1966 Official Plan for Metropolitan Toronto was more explicit than the above two reports in considering the impact of a transportation facility. For instance, it states:

Rapid transit facilities shall be located so as to cause minimum interference with existing or future residential amenities and community structure....

All new transportation systems or extensions to existing systems shall be designed to minimize or control air pollution both of a general nature and of a local nature.

A number of standard traffic criteria are mentioned with regard to expressway design, dealing with interchanges, pedestrian crossings and connections to arterial roads. Environmental and community impact criteria are considered as well.

The 1966 Official Plan proposed a transportation network almost identical to the 1959 and 1964 proposals. The Queen Street subway line, which was included in the 1959 Plan but deleted from the 1964 network, was reinstated in 1966 with the following provision:

The complete validity has not yet been established of certain major transportation facilities shown on Map III [of the 1966 Official Plan], particularly the Crosstown Expressway and the Queen Street rapid transit line. Because of their importance in the consideration of land use and population distribution and the overall transportation system, they are included in the plan at this time. They will be subject to specific review in the first quinquennial review of the Official Plan, and if not considered warranted at that time will be deleted from the plan by amendment.

The transportation network from the 1966 Plan is shown in Figure 1.1; it included the full expressway network.

(iv) Provincial Studies

Before the 1964 Transportation Plan was completed, the provincial government sponsored a study that has had some impact on Metropolitan Toronto, known as The Metropolitan Toronto and Region Transportation Study (MTARTS). A summary report entitled Choices for a Growing Region was produced in 1967. A number of regional land use alternatives and transportation alternatives were developed and evaluated by MTARTS, and it had two tangible results: the GO Transit commuter rail line along the Lakeshore, which was one of its recommendations, and a provincial document released in 1970 entitled Design for Development: the Toronto-Centred Region which basically adopted the land use recommendations of MTARTS as provincial policy.

The Toronto-Centred Region (TCR) concept called for a reduction in the rate of growth in the Central Area of Toronto, little growth north of Metro with emphasis on communities that could be serviced easily from Lake Ontario, and an emphasis on growth east of Metro to balance rapid growth to the west. These TCR guidelines only recently were stated in terms of population and employment allocations to the various areas.

The 1966 Metropolitan Plan is currently under review under Metroplan, and a new Plan is scheduled to be ready by the end of 1976. The Transportation Plan Review, which ended in January 1975 with the presentation of its

final report, Choices for the Future: Summary Report, represents the transportation planning input to Metroplan. The Metropolitan Toronto Transportation Plan Review started in 1972, and was very different in its mandate from previous studies. The earlier emphasis on computer models for traffic prediction was to be complemented by environmental and equity concerns. The Review was to be part of a continuous planning process involving public participation, and joint participation by Metro, the T.T.C., and the Province. Social and environmental criteria were to be considered, as well as economic and financial issues. The study was to consider land use/transportation interaction, and was "intended to give detailed consideration to the currently voiced suggestion that more emphasis should be placed on mass public forms of transportation and that the construction of urban freeways is not appropriate to the conditions of this age".

(v) Metropolitan Toronto Transportation Plan Review

Seven transportation system alternatives and fifteen land use alternatives (defined in terms of population and employment distributions) were developed by the MTTPR, and 23 land use/transportation combinations were tested on the basis of a variety of criteria. Many of the land use alternatives were based on the Toronto Centred Region guidelines referred to previously but other alternatives were also developed that are inconsistent with these guidelines. The combinations were narrowed down to six, which are presented in the final report, with details on the political choices that must be made. No one specific plan is recommended since this would be one of the objectives of the Metroplan process

The MTTPR process for examining the transportation planning questions in the year 2000 time horizon consisted of four steps:

- development of a broad range of land use and transportation alternatives
- technical and objective analysis of the implications of these alternatives in various combinations
- a preliminary evaluation to produce a short list of alternatives which highlight the major trade-offs involved
- and finally, the political choice, where the "best" alternative is chosen by elected representatives.

The first three steps have been completed, and the last step will be part of Metroplan.

Planning is only meaningful insofar as it leads to implementation of the plans. The transportation facilities included in a Plan must go through various approval procedures. Metropolitan roads, including arterials and expressways, are contracted by the Metropolitan Department of Roads and Traffic, so the first step would be inclusion of the project in their budget, which must then be approved by the Transportation Committee of Metropolitan Council, the Executive Committee, and finally by Council. If the project is approved, it then generally goes ahead, with provincial subsidy. The decision can be appealed to the Ontario Municipal Board, and, if need be, to the Cabinet. The Province, however, is largely autonomous in constructing its roads.

Subway construction is contracted by the Toronto Transit Commission, but since Metro pays a large part of the cost, subway projects follow the same route as Metro road projects: Transportation Committee, Executive Committee, and Metro Council. A decision on a subway project can also be appealed to the Ontario Municipal Board and to the Cabinet.

In view of the above approval processes, it is apparent that all transportation plans are not necessarily implemented. At this stage, it appears that the expressway network envisioned in the 1966 Plan will not be completed, and that a more extensive transit network will be built.

5.3 EXAMPLES OF PLANNING DECISIONS

The construction of major transportation projects has an obvious and basically irreversible impact on the performance of a transportation system, and is the final step in the implementation of a transportation plan. In a sense, it is the most important step in the process, since otherwise the plan is not very meaningful. These major project decisions should therefore be considered as planning decisions in the broadest sense.

(i) The William R. Allen (Spadina) Expressway

The Allen Expressway was first formally proposed in December, 1953 when Metro Council approved a recommendation that the Roads Commissioner prepare plans showing a route from Dupont Street to Wilson Avenue. Property acquisition and engineering design proceeded, and an alignment for the Expressway was shown in both the 1959 and 1964 Transportation Plans, as well as the 1966 Metropolitan Plan. The first

section of the Expressway, from Wilson Heights to Lawrence, opened in 1966, including the Highway 401 interchange which had been built by the Province on the understanding that Metro was irrevocably committed to building the Expressway to Bloor Street.

In August, 1969, Metro Council withdrew earlier 1968 approval of a request by the Roads and Traffic Department for authority to apply to the Ontario Municipal Board (O.M.B.) for an approval to borrow an additional \$25 million for the project, and a Roads and Traffic report on the design of the facility was referred back to the Executive Committee and the Transportation Committee to hear representations from citizens.

In October 1969, the Minister of Municipal Affairs approved a revised City of Toronto Official Plan in which the Allen Expressway and Rapid Transit line were designated as major transportation facilities. Public hearings were held in April by the Transportation and Executive Committees and in June, Metro Council approved in principle the functional design of the facility. An O.M.B. hearing was held in January 1971, and in February the O.M.B., by a 2 to 1 decision, dismissed the application for variation of its 1963 approval to proceed. An appeal was made to Cabinet, and in June, the Cabinet dismissed the Metro application to proceed, effectively cancelling the Expressway.

In this case, the planning had taken place with reasonable objectives and no lack of competence, but the political decision went counter to the technical recommendations. Public values had apparently changed, and such changes are difficult for the planner to predict. Even public participation will not necessarily eliminate such occurrences in the future. The elected representatives, not the planners, make the final decisions.

(ii) GO URBAN

When the Provincial Cabinet cancelled the Spadina Expressway in June, 1971, an alternative solution to the transportation problems of Toronto was promised. The proposed solution was unveiled in November 1972, when Premier Davis announced a plan for a network of Intermediate Capacity Transit based on highly advanced technology including fully automated control of the vehicles. Subsequent analysis of the alternative technologies resulted in the selection of a system using small vehicles, propelled by linear induction motors and supported by a magnetic suspension system. The proposed network was

developed without consulting Metropolitan Toronto or the regional governments. However, a 75 percent provincial subsidy for construction of the network was also announced, so the plan was well received by Metro politicians. The technology selected involved joint development with a West German manufacturer that has since withdrawn from the project, and at this time there is some uncertainty as to the timing and nature of future technological developments.

(iii) Extensions to Bloor-Danforth Subway

Upon the recommendation of the T.T.C., Metro Council in 1973 approved plans for the western extension of the Bloor-Danforth subway from its present terminal at Islington to a new terminal at Kipling, approximately 0.9 miles in length. Originally, the proposal planned for the incorporation of new subway car storage facilities so that space in existing yards at Greenwood could be made available for the proposed Queen Street subway (although this facility has never been approved). The extension involves an expenditure of approximately \$29 million and would provide some operational improvements for transit service in the area.

Another proposal made by the T.T.C. for an eastern extension of the Bloor-Danforth line from its present terminal at Warden to a new terminal at Kennedy Road and Eglinton Avenue was also approved by Metro Council in 1973. This extension is estimated to cost approximately \$41 million and would tie in with proposed new transit services in north-eastern Scarborough. It is approximately 1.6 miles in length.

Both the eastern and western extensions of the existing Bloor-Danforth subway represent operational improvements with little or no long range planning impact. However, they were approved by Metro Council almost without discussion and without any consideration of alternative investments in transit facilities that might have more significant planning implications. In contrast to strategic planning without implementation, these extensions constitute examples of implementation without strategic planning.

(iv) The Scarborough Expressway

The Scarborough Expressway was included in the transportation plan for Metropolitan Toronto adopted in 1966. The design of the expressway involved elevated construction and required

the taking of a substantial number of homes. In response to strong community opposition to the expressway, a new design for the expressway was presented to Metro Council in August of 1973 which reduced the number of homes to be taken and which improved the appearance of the proposed expressway.

Opposition to the improved design still remained strong and although Metro Council had earlier adopted a recommendation of the Joint Technical Transportation Planning Committee to proceed with construction of the expressway, the Transportation Plan Review was directed to undertake a more detailed study in order to clarify the important issues and prepare the information needed as a basis for deciding whether the expressway should be built.

In March 1974, the Transportation Plan Review reported to Metro Council with the recommendation not to build the expressway. That recommendation however was subject to the qualification that explicit steps be taken to implement new transit proposals and to coordinate general land use and transit planning in Scarborough. Metro Council voted in favour of accepting the recommendation of the Transportation Plan Review not to proceed with expressway construction, but to date no action has been taken to implement the transit proposals that were deemed necessary as alternatives to the expressway.

5.4 PROBLEMS AND ISSUES IN TRANSPORTATION PLANNING

In summary, the following issues seem to stand out in strategic planning for transportation in the Toronto area:

- (i) Land use and transportation: While almost all planning studies point out the importance of this relationship, there are only a few examples of an integrated approach to land use and transportation planning, such as policies to encourage high density development around subway stations. On a regional and commuter-shed scale, there is little coordination of policies, especially with respect to transit-oriented development in peripheral areas although efforts are now being made to improve such coordination.
- (ii) Provincial versus regional and local planning:
A number of examples were given where provincial

and metropolitan decisions were in conflict, with the Province making the final decision.

- (iii) Short-term versus long-term objectives: This is a universal problem, and the only solution seems to be for the planners to translate short-term choices into long-term implications and to make the latter as clear as possible.
- (iv) Coordination of planning among different modes: There is some coordination, for instance through the Transportation Committee of Metro Council, but there are weaknesses in the process.
- (v) Inter-regional transportation planning: The Province provides some assistance in this regard, but most of the technical interaction among the regions is ad hoc.

Chapter 6

FINANCING OF TRANSPORTATION

6.1 INTRODUCTION

Financing mechanisms for the construction and operation of the transportation system are extremely important in determining the physical structure and efficiency of the system.- Financing is closely related to planning, since it is the essential tool for the implementation of plans. This section deals with transportation financing in and around Metropolitan Toronto, first from a descriptive point of view, examining the payments and subsidies provided, along with a brief history, and then from a more specific point of view, showing the actual expenditures and revenues over the past decade or so, and highlighting various trends and relationships.

6.2 THE FINANCING STRUCTURE

Roads

The provincial government exercises considerable control over the design, construction and maintenance of roads within Metro through a system of subsidies for road construction and maintenance that requires prior approval of proposed work from the Ministry of Transportation and Communications. The Ministry checks plans for good design and economics, approves contracts involving subsidies, and provides general technical assistance. In practice, there is technical cooperation and few problems exist in obtaining approval. The provincial subsidy rate for Metro and the area municipalities is currently 50 percent of expenditures to "road improvements" as defined by statute, and 80 percent of work on bridges in the boroughs. Etobicoke and Scarborough are the only boroughs that currently have bridge construction programs. The subsidy covers approved road maintenance as well.

The provincial government pays all of the construction and maintenance costs for highways within Metro under its jurisdiction, such as highways 401 and 427. The construction costs of "connecting links" of provincial highways within

urban boundaries receive a subsidy of 75 percent which was extended in 1967 to include maintenance costs as well.

The Federal Railway Grade Crossing Fund averages about \$1.5 million annually; there are no other federal road subsidies in Metro.

Provincial subsidies all come from the provincial consolidated revenue fund; no funds from the gasoline tax or license fees are earmarked. Municipal funds come from municipal general revenues.

Transit

Until 1959, the T.T.C. was required to set fares so as to be self-sustaining. With the start of the Bloor/Danforth subway, the Metropolitan Corporation contributed to the capital costs of subway construction subject to the approval of the O.M.B. Under this agreement, Metro was to bear the full cost of right-of-way acquisition, and to share all other subway construction costs equally with the Commission. Metro assumed about 55 percent of the total cost of the Bloor-Danforth-University Subway. In 1963, Metro was authorized to subsidize T.T.C. operating costs, and in the same year the Highway Improvement Act was amended to allow a provincial subsidy of 33 1/3 percent of certain specific costs of "subway right-of-way construction". In 1964, the Woods-Gordon Formula increased Metro's share of subway construction and right of way acquisition costs to 70 percent including the provincial subsidy.

In 1969, the provincial capital subsidy was increased to 50 percent, and in 1971, The Public Transportation and Highway Improvement Act was broadened to allow provincial subsidies for both capital and current expenditures on all forms of public transportation at the same rate as road subsidies, basically 50 percent. In 1972, a ceiling based on population and revenue passengers was placed on the 50 percent operating subsidy, and the capital subsidy was increased to 75 percent for all subway construction and for surface transit as well. In 1973, the ceiling on operating subsidies was raised, and in 1974 it was eliminated.

Since 1962, there has been a special 2 mill levy earmarked for subway construction, which has been the main source of funds for this purpose at the Metro level. Since 1967, T.T.C. and Metro lands, building and easements used

for subway or other rapid transit purposes or as related car yards or shops have been exempt from business and real property taxation. However, the T.T.C. continues to pay full provincial tax on motor fuel. The Commission receives grants for the cost of providing free or reduced fare transit to special groups such as the blind and war amputees. No grants are received to support the cost of student fares, although Senior Citizens' reduced fares are subsidized by Metro.

In summary, the present situation for T.T.C. financing is as follows:

Subway construction	75% provincial subsidy + 25% Metro grant (from 2 mill levy plus debentures and general revenue)
Subway rolling stock	75% provincial grant + T.T.C. and Metro funds
Surface transit capital expenditures	75% provincial grant + T.T.C. and Metro funds
Operation	T.T.C. fares + special fare grants + Metro grant for 50% of deficit + provincial grant for 50% of deficit

Limits on provincial and/or Metro grants for operating costs therefore dictate the need to raise transit fares as deficits increase. All debentures for transit-related capital investments are arranged through the Metropolitan Corporation. It appears that there will be a federal transit subsidy, but details remain to be worked out.

6.3 TRANSPORTATION EXPENDITURES 1962-1973

There have been a number of shifts in emphasis in transportation expenditures within Metropolitan Toronto and in the surrounding area during the past decade. Table 6.1 shows the current expenditures, i.e. for operation and maintenance plus debt service (principal repayment and interest for debentures). For the provincial expenditures, however, debt service is not included since all of the money comes from the provincial general revenue fund, which is generated in a variety of ways. No specific provincial revenues, such as the fuel tax, are earmarked for transportation

TABLE 6.1

CURRENT PUBLIC EXPENDITURES ON TRANSPORTATION, 1962-1973
\$ MILLIONS

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
METRO ROADS												
(OPERATION AND MAINTENANCE (DEBT SERVICE (TOTAL CURRENT	6.045 7.134 13.179	5.958 8.272 14.230	6.061 9.458 15.519	7.682 10.916 18.598	8.108 12.838 20.946	9.672 14.084 23.756	9.648 15.281 24.930	10.006 16.395 26.401	11.880 17.144 29.024	11.861 18.539 30.400	13.769 19.486 33.265	11.176 20.171 31.347.
METRO TRANSIT (T.T.C.) (TOTAL CURRENT	39.284 4.860 44.144	41.614 5.966 47.580	42.771 6.786 49.557	44.796 9.080 53.826	51.937 11.153 63.090	56.988 12.627 69.615	64.703 13.664 78.367	71.609 13.753 85.362	76.624 13.928 90.551	83.472 14.442 97.914	89.921 14.442 104.363	100.384 14.536 114.018
METRO TRAFFIC CONTROL TOTAL CURRENT	1.086	1.276	1.674	2.140	2.151	2.827	3.359	3.518	3.850	4.546	4.966	5.498
LOCAL ROADS TOTAL CURRENT	14.500 ³	16.500 ³	15.600 ³	19.900 ³	17.000 ³	19.500 ³	29.746	30.838	33.392	38.291	36.288	37.353
PROVINCIAL (DIRECT (GO) TRANSIT (SUBSIDIES	- -	- -	- -	- -	- -	3.2	4.741	4.878	6.326	9.306	9.229	10.441
PROVINCIAL (DIRECT ROADS (SUBSIDIES	.800 ³ 8.636	.800 ³ 9.404	.800 ³ 9.194	1.100 ³ 11.647	1.100 ³ 10.826	1.100 ³ 12.349	1.800 ³ 13.845	1.800 ³ 14.990	1.800 ³ 16.696	2.753 20.920	2.659 20.774	2.474 18.444

SOURCES

- 1 Exclusive of traffic control
2 T.T.C. and Metro contribution
3 Estimated
All municipal figures
include provincial subsidies

1. METRO ANNUAL REPORTS
2. TTC ANNUAL REPORTS
3. METRO AND MUNICIPAL FINANCIAL STATEMENTS TO PROVINCE
4. AREA MUNICIPALITIES' ANNUAL REPORTS
5. MINISTRY OF TRANSPORTATION AND COMMUNICATIONS PROGRAM ANALYSIS OFFICE
6. TATOA
7. METRO AUDITORS OFFICE
8. MTRR REPORT NO. 27
9. JARRETT, GOULD AND ELLIOTT, A FINANCIAL PROFILE OF METROPOLITAN TORONTO AND ITS CONSTITUENT MUNICIPALITIES, 1967-1973. THE ROYAL COMMISSION ON METROPOLITAN TORONTO, 1975.

expenditures. All of the municipal current expenditures shown include provincial subsidies. Table 6.2 shows the capital expenditures on roads and transit over the same period. Again, the Metro and local expenditures include the provincial subsidies.

To point out various relationships among the different rates of expenditure, these figures have been plotted in different ways as shown in Figures 6.1 to 6.8.

Figure 6.1 shows the total current expenditures for roads and for transit; Figure 6.2 shows the split in current expenditures between the province and the municipal level (net of provincial subsidies). Figure 6.3 shows the split between roads and transit in provincial direct expenditures and subsidies. Figure 6.4 shows the growth in the T.T.C. deficit. Figures 6.5 to 6.8 deal with capital expenditures: Figure 6.5 shows the split between roads and transit; Figure 6.6 the split between provincial and municipal (net) expenditures; Figure 6.7 compares expenditures by the province on roads and transit, and Figure 6.8 shows Metro expenditures on roads and transit.

The graphs imply a number of trends and relationships:

- (i) Provincial financial influence increased sharply during the period 1962-1973. Provincial capital expenditures (direct plus subsidies) more than tripled, while Metro (net) capital expenditures on transportation declined.
- (ii) During the period 1962-1973, total public expenditures (capital plus current) amounted to roughly \$1.6 billion for roads and \$1.4 billion for transit.
- (iii) Current expenditures (operating, maintenance, and debt service) increased steadily for both roads and transit, with roads spending consistently about 20 to 30 percent less than transit spending.
- (iv) The total current expenditures during the period were about \$1.76 billion, with 59 percent going to transit.
- (v) Capital expenditures were erratic. From 1962 to 1965, both road and transit capital expenditures increased, but then transit declined steadily until 1971, when it jumped sharply. Roads spending peaked in 1967 and 1968, and has declined since.
- (vi) Total public capital expenditures on transportation during the period 1962-1973 was approximately \$1.3 billion, with 66 percent of this spent on roads.

TABLE 6.2

CAPITAL PUBLIC EXPENDITURES ON TRANSPORTATION, 1962-1973
\$ MILLIONS

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
METRO ROADS	29.262	40.195	31.702	29.570	33.385	30.896	30.685	25.120	18.857	19.056	17.677	15.968
METRO TRANSIT (T.T.C.)	26.693	30.596	46.632	55.502	42.305	29.489	14.925	20.133	23.167	37.717	38.108	32.191
METRO TRAFFIC CONTROL	.091	1.541	1.320	.556	.105	.419	-	.229	.198	.74	.183	.183
LOCAL ROADS	8.431	10.070	9.290	9.549	13.158	16.406	28.556	25.156	21.194	22.166	20.332	20.466
PROVINCIAL TRANSIT (DIRECT (GO) (SUBSIDIES)	-	-	-	-	-	10.000	10.000	4.900	2.500	.100	3.314	15.300
	-	-	5.792	10.838	5.836	1.962	1.560	4.246	8.593	17.280	17.441	19.769
PROVINCIAL ROADS (DIRECT (SUBSIDIES)	5.165	13.978	20.328	27.595	34.433	34.766	43.205	44.505	35.225	34.562	16.913	23.735
	17.698	23.721	18.922	19.440	21.823	21.366	22.823	23.235	19.501	19.106	18.272	19.351

SOURCES

1. METRO ANNUAL REPORTS
2. TTC ANNUAL REPORTS
3. METRO AND MUNICIPAL FINANCIAL STATEMENTS TO PROVINCE
4. AREA MUNICIPALITIES' ANNUAL REPORTS
5. MINISTRY OF TRANSPORTATION AND COMMUNICATIONS PROGRAM ANALYSIS OFFICE
6. TATO
7. METRO AUDITORS OFFICE
8. METRO REPORT NO. 27
9. JARRETT, GOOLD AND ELLIOTT, A FINANCIAL PROFILE OF METROPOLITAN TORONTO AND ITS CONSTITUENT MUNICIPALITIES, 1967-1973. THE ROYAL COMMISSION ON METROPOLITAN TORONTO, 1975.

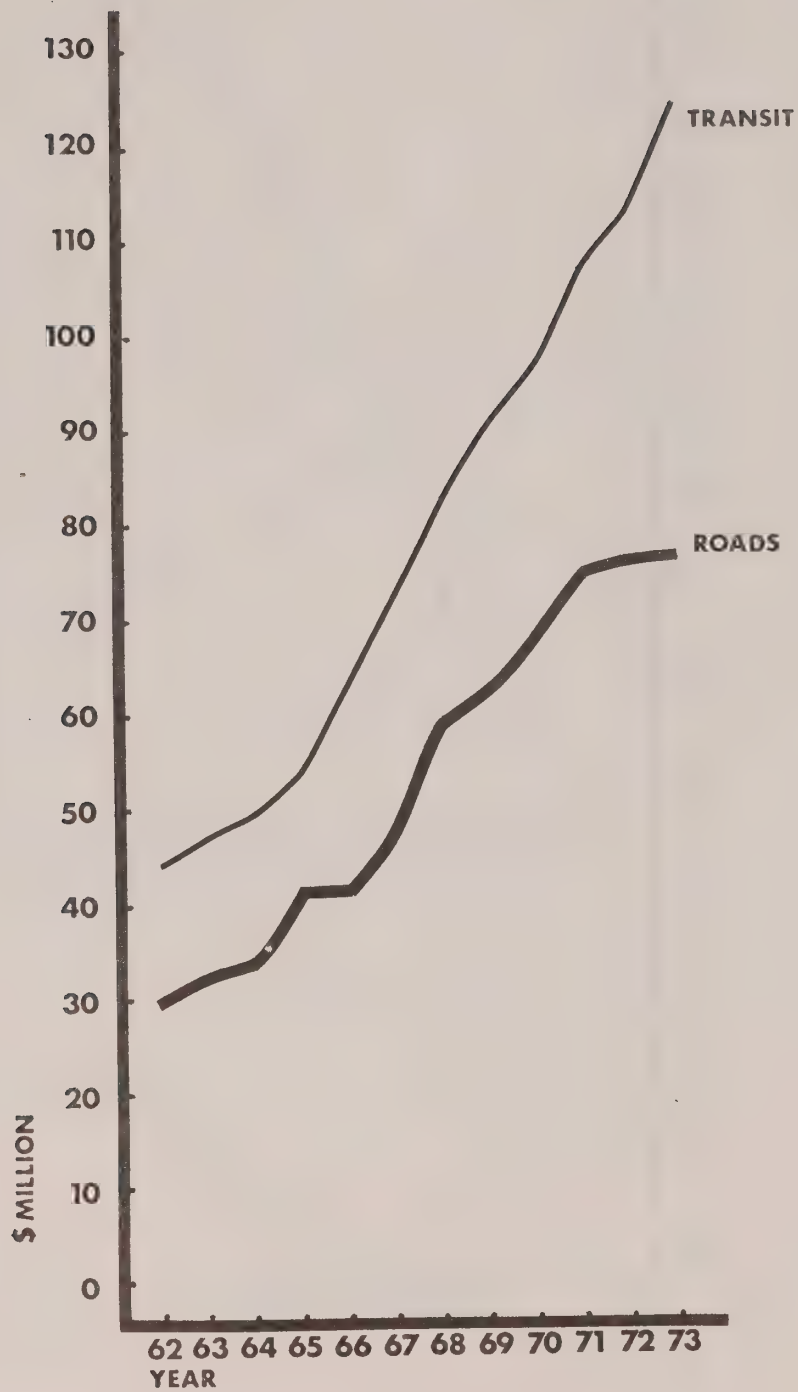


FIGURE 6.1 TOTAL CURRENT EXPENDITURE - PROVINCIAL + MUNICIPAL FOR ROADS AND TRANSIT, 1962 TO 1973 IN METRO

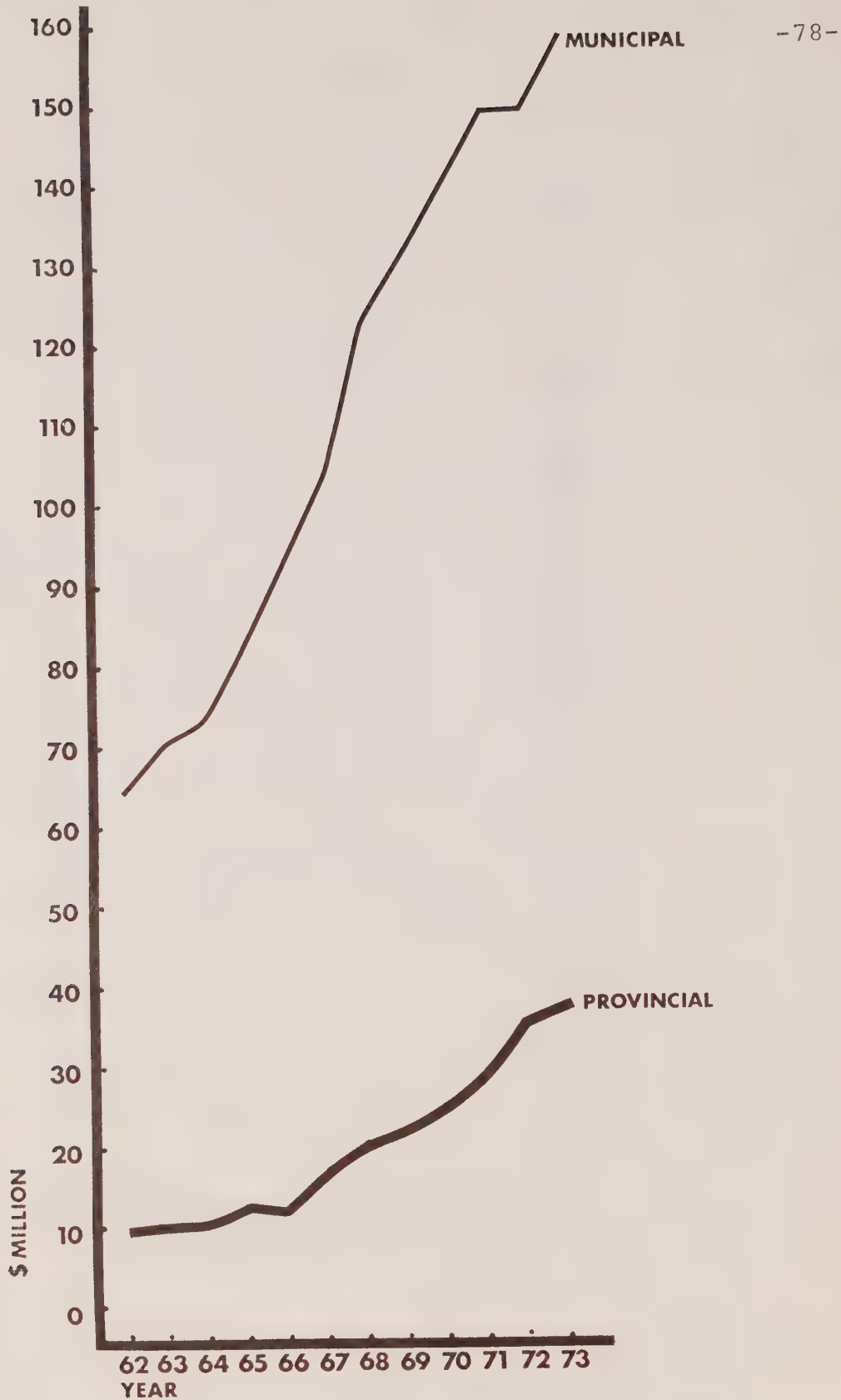


FIGURE 6.2 PROVINCIAL CURRENT TRANSPORTATION EXPENDITURES
VS. METRO + AREA MUNICIPALITIES CURRENT EXPENDITURES
ON TRANSPORTATION (NET OF PROVINCIAL SUBSIDIES)

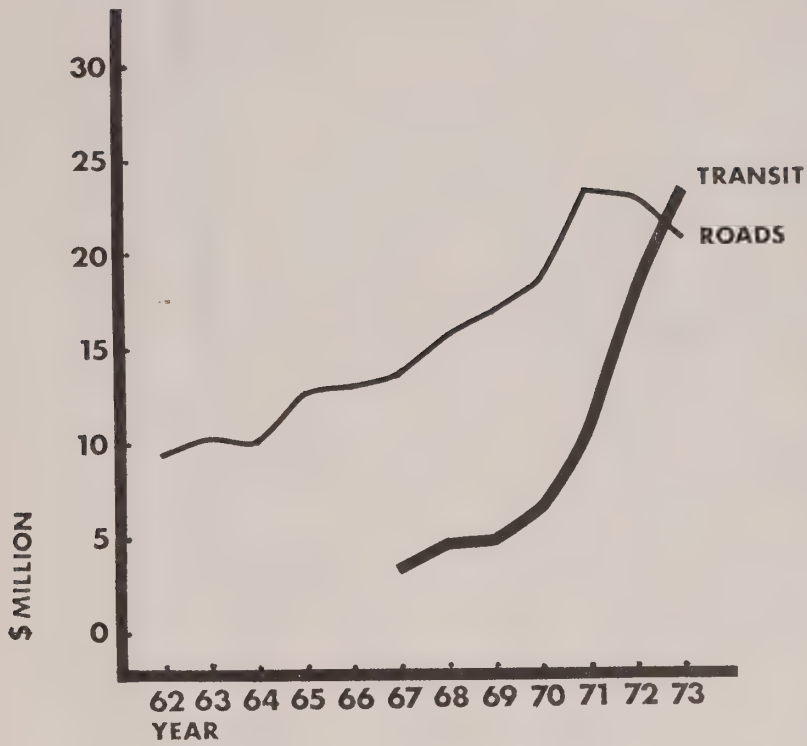


FIGURE 6.3 PROVINCIAL CURRENT EXPENDITURES: ROADS VS. TRANSIT
IN METRO

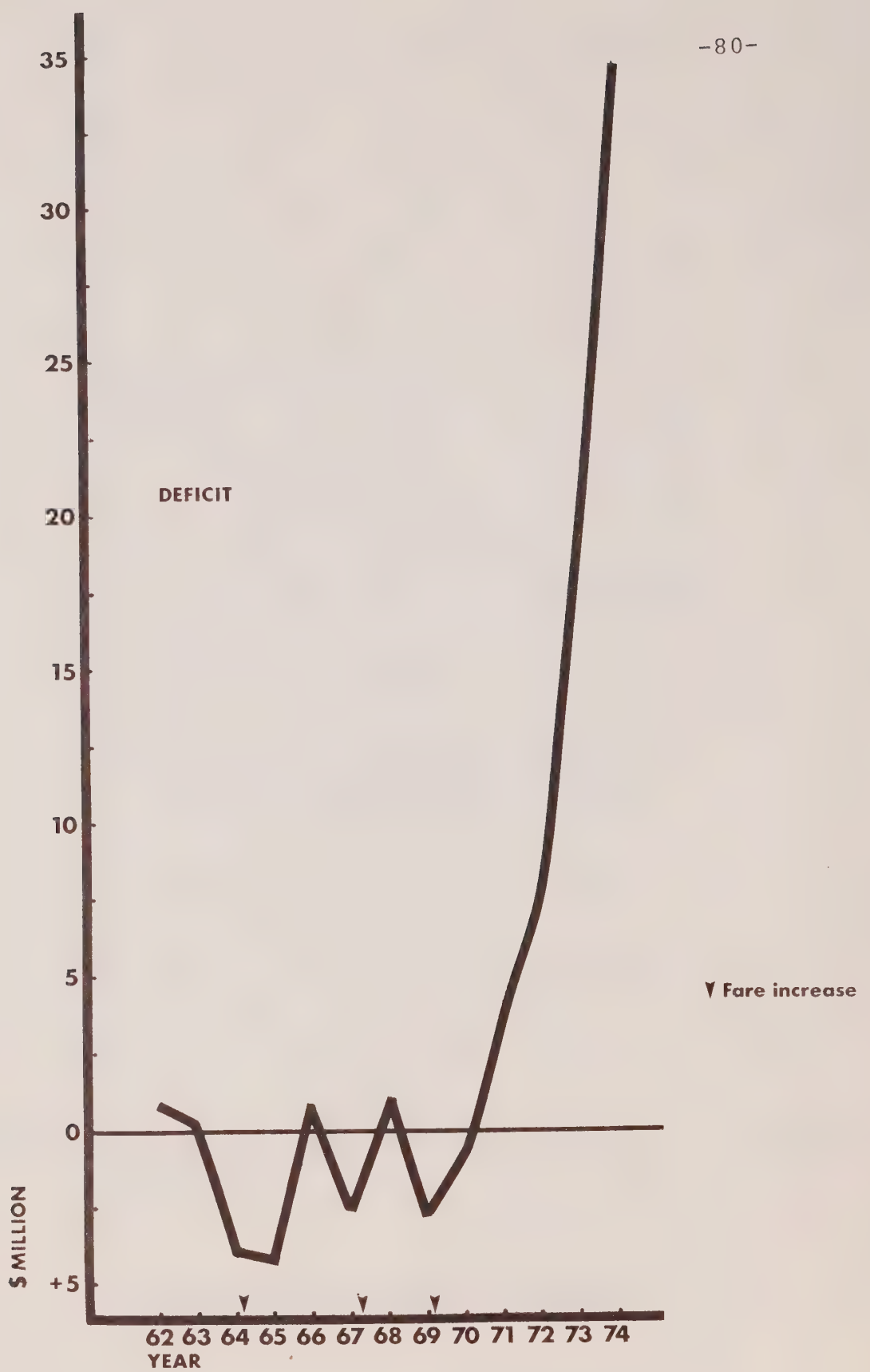


FIGURE 6.4 T.T.C. DEFICITS 1962-1974

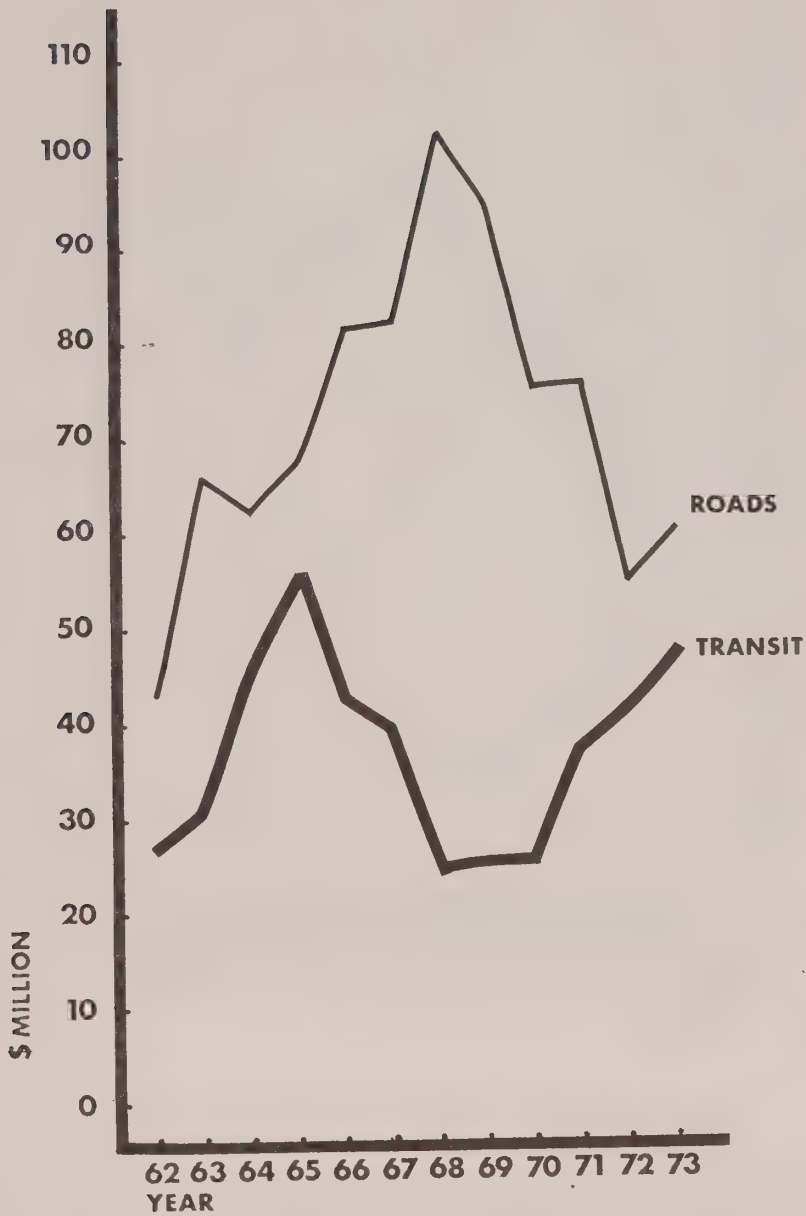


FIGURE 6.5 TOTAL CAPITAL EXPENDITURES - PROVINCIAL + MUNICIPAL:
ROADS AND TRANSIT IN METRO

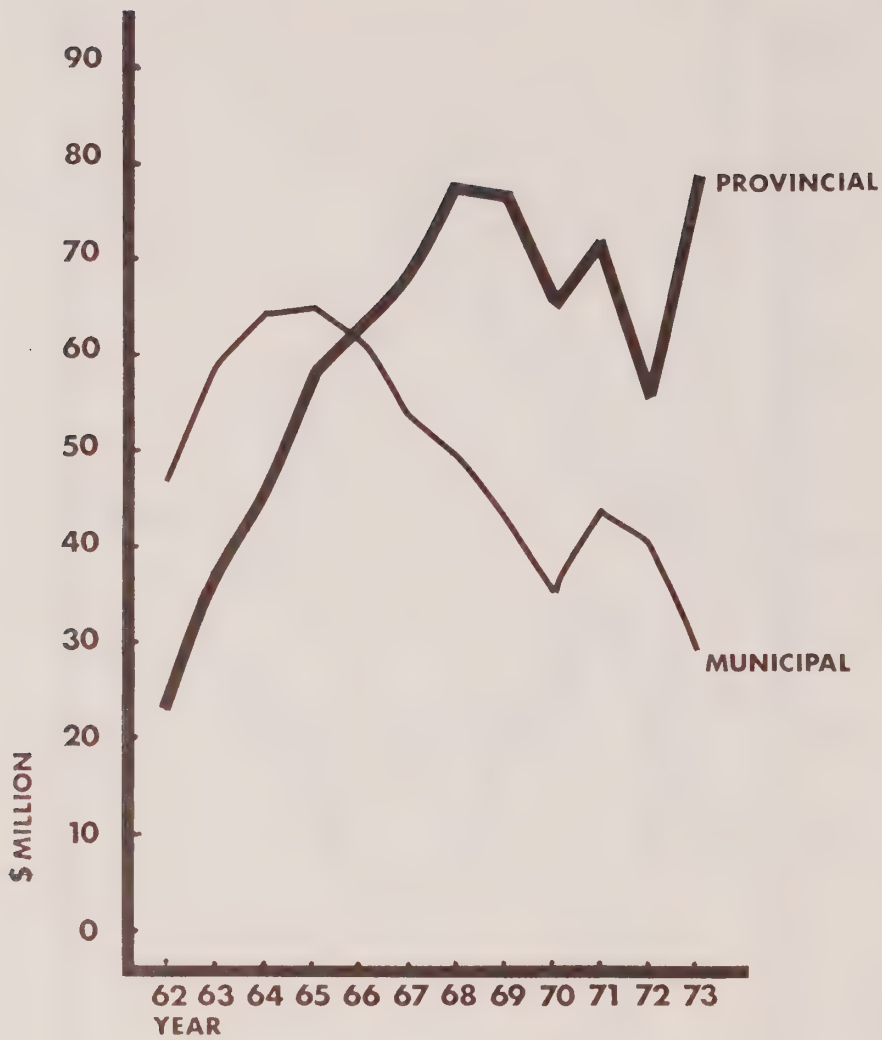


FIGURE 6.6 PROVINCIAL CAPITAL TRANSPORTATION EXPENDITURES (DIRECT + SUBSIDIES) VS. METRO + AREA MUNICIPALITIES CAPITAL EXPENDITURES (NET OF SUBSIDIES) IN METRO

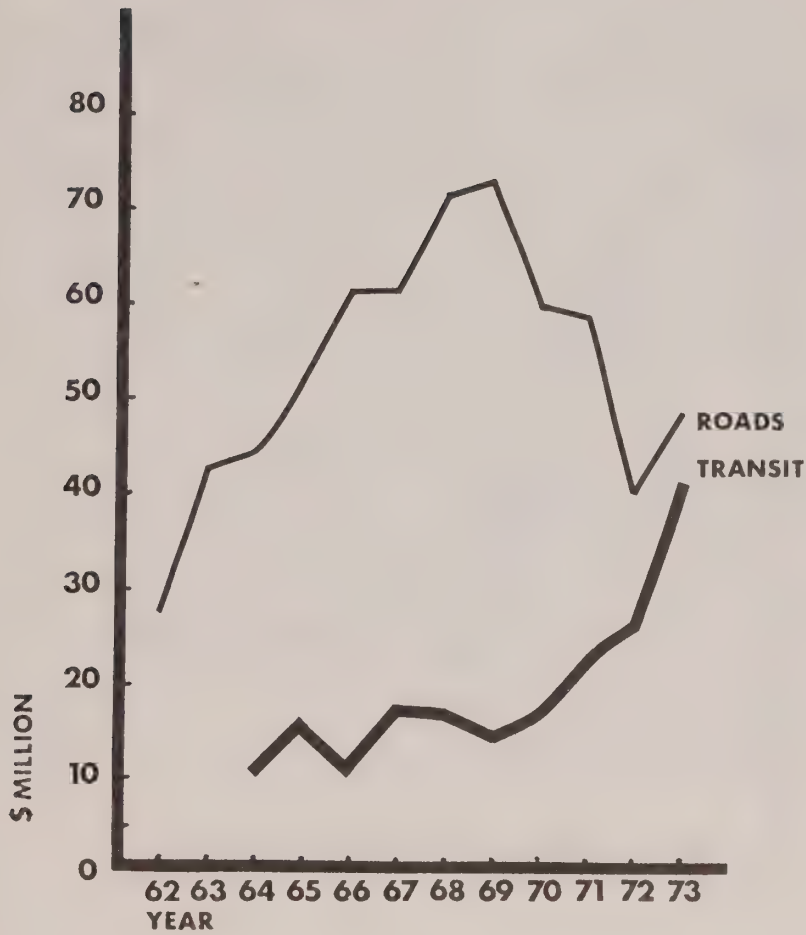


FIGURE 6.7 PROVINCIAL CAPITAL TRANSPORTATION EXPENDITURES
(DIRECT + SUBSIDIES): ROADS AND TRANSIT IN METRO

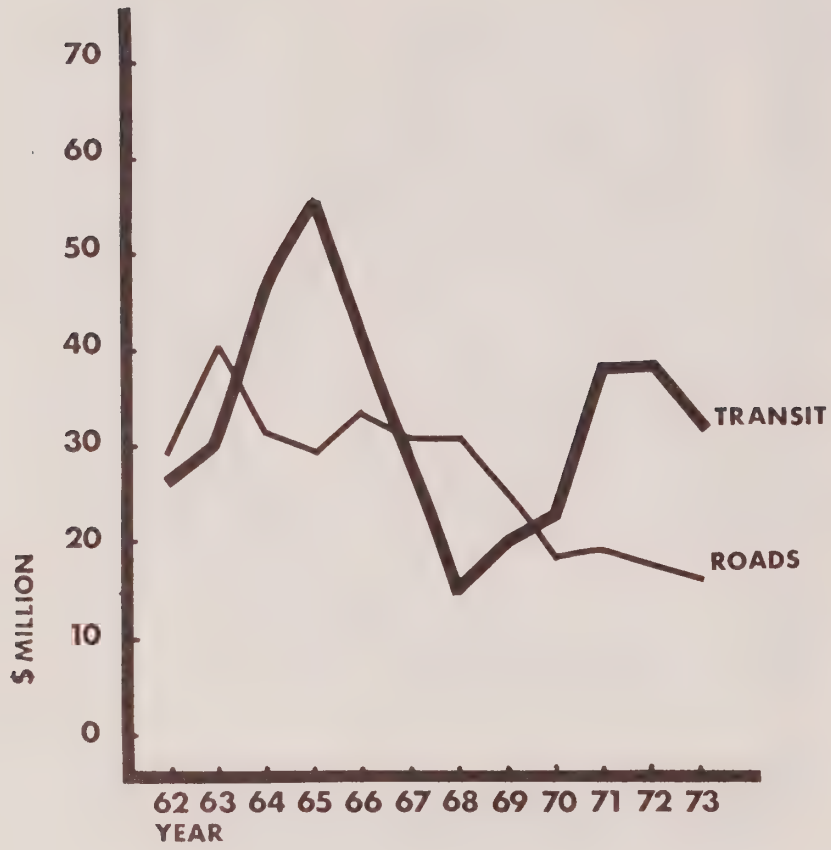


FIGURE 6.8 METRO CAPITAL EXPENDITURES (INCLUDING PROVINCIAL SUBSIDIES)

6.4 TRANSPORTATION REVENUES 1962-1973

The calculation of transportation-related revenues is more difficult than the calculation of expenditures because there is a major difference between provincial and Metro transportation-related revenues. The Province derives most of its revenues from fuel taxes and license fees, which are not earmarked to be spent on transportation, while Metro derives most of its transportation revenue from transit fares which are strictly earmarked for transit operation. Transit-related revenues are readily available from the data on fares, but for automobiles, data on provincial fuel taxes and license fees are not easily determined for the Metropolitan Toronto area.

The ratio of transportation-related revenues to expenditures was about 1.1 to 1 for the Province over the period, and only about 0.6 to 1 for Metro. However, public expenditures show only part of the picture: in the case of transit, they cover the whole cost of operation, but with the automobile, major private expenditures are involved that are not shown here. In any comparison of the total cost of the two modes, therefore, private expenditures must also be considered even though they may not be of direct concern in reviewing government policies. The total (public plus private) cost per passenger mile is estimated to be about 25 percent higher for the auto/road system than the transit system (Metropolitan Toronto Transportation Plan Review Report No. 27).

Chapter 7

FUTURE TRANSPORTATION REQUIREMENTS

7.1 INTRODUCTION

Future transportation requirements can be predicted to some extent by the analysis of trends and through the use of simulation models. While these techniques have their weaknesses, as any attempt to predict the future must, they can provide a useful basis for making decisions. As the existing situation changes and as trends point in new directions, the analyses and decisions must be modified.

Transportation demand is determined by two factors: the characteristics of land use and the quality of the transportation system itself. The home-based work trip, due to the peak congestion it imposes on the system, is important in determining the capacity requirements in the network. Its origin and destination are largely determined by where people live and where they can and do work. This is the major effect of land use characteristics in determining travel demand. For non-work trips, the location of other kinds of activities relative to residential areas is obviously important.

In addition to the land use effects, the availability of good transportation services naturally tends to encourage people to travel more. This is the "induced" demand brought about, for instance, by the provision of an expressway or rapid transit line. In the short run, these facilities lead to an increase in the number of trips taken. In the long run, they can influence the location of people and jobs thereby accounting for the relationship between transportation and land use.

Thus there are two types of prediction: short-run, where it is assumed that the land-use characteristics are stable or at least that any changes are committed and predictable and long-run, where it is assumed that land-use patterns could change appreciably, thus providing different possible pictures of transportation demand even with the same transportation system. In the short-run case, it is necessary to look only at changes in demand caused by the provision of new transportation facilities, since there is only one land use possible. In the long-run, it is necessary to consider land-use and transportation system

combinations, and the range of possibilities becomes broader.

At this time, there are two major sources of information on the future transportation requirements in Metropolitan Toronto and the surrounding area: the TARMS (Toronto Area Regional Model Study) of the Ministry of Transportation and Communications, and the STAP model (Simplified Travel Analysis Procedure) developed by the Metropolitan Toronto Transportation Plan Review. These models are quite different in their objectives and characteristics, but to a large extent complement each other.

The TARMS model is a conventional transportation simulation model with 1400 traffic zones covering the Metro commuter-shed. It is quite precise and rigorous, and represents the current state of the art; unfortunately, its complexity discourages the testing of many alternatives, because changing the input data takes a great deal of time. The STAP model is much less precise or rigorous, and uses much larger travel zones, but it can be used fairly quickly to test a wide range of alternative futures. The STAP model was used to provide short run predictions to 1981 in the MTTPR. Both models were used for the year 2000 predictions.

7.2 1981 TRAVEL DEMAND

In describing the projected travel demand for 1981 simulated by the MTTPR, and in considering the relationship between demand and capacity, attention here is focussed primarily on qualitative rather than quantitative discussion. The actual numbers are available in detailed reports, with many qualifications and provisos; providing them here without the qualifications would be misleading.

The analysis assumes that core area employment will grow from the 1971 level of 334,000 jobs to 435,000 on the basis of committed development, that regional population increases from 2.773 million in 1971 to 3.676 million in 1981, and that total jobs will increase during that period from 1.187 million to 1.642 million. All of the simulations were based on current travel behaviour, particularly with respect to choice of mode although it is recognized that these patterns may change appreciably. The analysis deals to the following conclusions:

- (i) Road congestion will continue to increase and most major roads such as the Don Valley Parkway, Highway 401, and the Gardiner Expressway will be severely overloaded during peak periods. To alleviate congestion, basically three possibilities exist: travel restrictions can be imposed, more roads can be constructed, or improvements can be made to transit service in order to divert people from their cars. During off peak periods, however, the road system will continue to provide a reasonable level of service.
- (ii) On the basis of current modal choice behaviour, the transit system capacity will be sufficient to meet demand in 1981. During peak periods, however, congestion at certain points will be very high, and the quality of service will suffer. Travellers who want to use an auto but who will be forced to use transit due to the lack of adequate road capacity during peak periods will place additional loads on the transit system. This will be particularly true for centrally oriented transit lines.
- (iii) The northwest area of Metro will continue to have the poorest quality of road service, particularly as a result of increased trip interchange with Brampton, Malton and Mississauga that cannot be served by transit.
- (iv) Transit service to the Central Area will operate almost at capacity during the peak periods, but expansion of the system beyond committed facilities is not absolutely necessary by 1981.

7.3 YEAR 2000 TRANSPORTATION REQUIREMENTS

Predictions for the year 2000 must be viewed with considerably more caution. Nevertheless, long-range forecasts can be very useful in comparing the probable implications of short-run decisions. Both the TARMS and MTTPR predictions are considered here.

The TARMS group has carried out a wide variety of simulations, and typical results are shown in Figures 7.1 and 7.2. These illustrate the simulated growth in 24 hour home-based work trips in the Hamilton/Toronto/Oshawa area, and are based on population and employment allocations consistent with

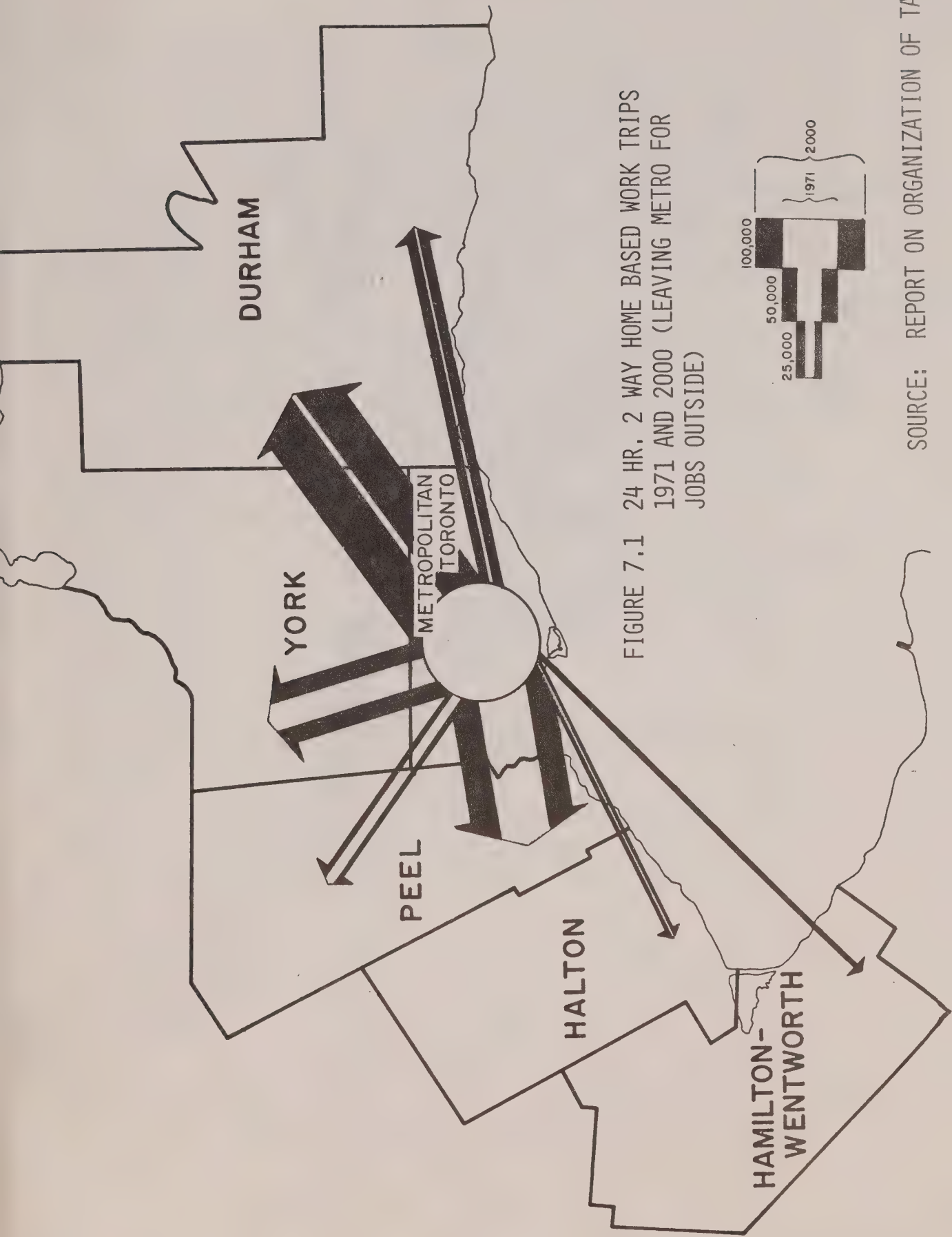


FIGURE 7.1 24 HR. 2 WAY HOME BASED WORK TRIPS
1971 AND 2000 (LEAVING METRO FOR
JOBS OUTSIDE)

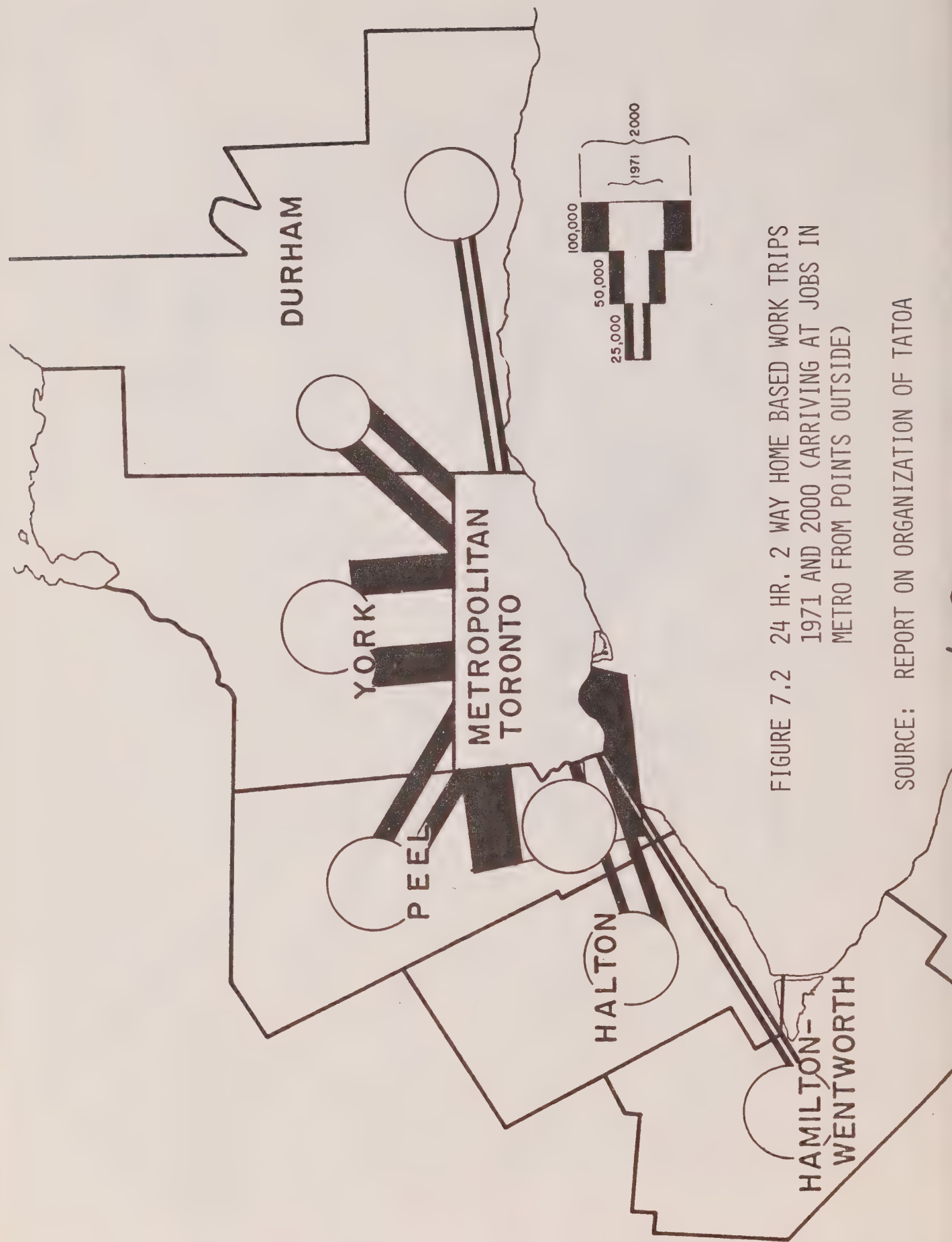


FIGURE 7.2 24 HR. 2 WAY HOME BASED WORK TRIPS
1971 AND 2000 (ARRIVING AT JOBS IN
METRO FROM POINTS OUTSIDE)

SOURCE: REPORT ON ORGANIZATION OF TATOA

the Toronto-Centred Region guidelines as defined by the provincial government.

It is evident that there will be a significant growth in travel between Metro and the surrounding area by the year 2000. Travel from Metro will continue to focus on Peel to the west, but travel outbound to North Pickering will increase dramatically, almost matching the former. As far as travel into Metro is concerned, TARMS predicts the largest demand from Peel and slightly less from York. Travel from the east is much less significant.

These travel demand predictions suggest serious capacity problems by the year 2000. It may be reasonable to assume that the magnitude of these problems can be reduced by redistributing population and employment to minimize concentration of travel demand in areas that are deficient in transportation facilities. Over a 25 year time period, it should be possible to guide growth in certain directions so as to achieve such redistributions.

In contrast to the TARMS model which considers only one land-use, the MTTPR predictions were based on consideration of a variety of land use and transportation combinations (23 as mentioned in Chapter 5). These combinations were compared on the basis of a number of criteria, including travel performance. Variations in land use were considered because of the dynamic nature of land use change and its relationship to transportation. Since the land use issues in the year 2000 are likely to be more important than transportation issues, comparison of the land-use and transportation combinations based on travel performance must be viewed within the context of other objectives for the growth of Metropolitan Toronto. It would be beyond the scope of this paper to describe the analysis in full but it is available in the final report of the Transportation Plan Review. Some of the principal conclusions are as follows:

- (i) The basic land-use issue in the Toronto Centred Region is whether growth of the Central Area of Toronto (the area roughly bounded by Spadina Road, Dupont Street, Jarvis Street and the waterfront) will continue unabated, or whether growth can be successfully diverted to other centres in the area. A transportation system focussing on a highly concentrated downtown has inevitable problems of congestion, and an inherent inefficiency due to the large directional imbalances in flow during

peak periods: people travel into downtown in the morning, and out of it in the evening. All indications are that a decentralized land-use configuration, with high density clusters and not too much dispersion, is easier to serve.

- (ii) It will be impossible to accommodate all auto travel demand in the year 2000 as it is predicted on the basis of current modal choice behaviour. The use of transit will have to increase to compensate for deficiencies in road capacity; everyone who wants to (and presently can) travel by car during the peak period will simply not be able to do so in the year 2000.
- (iii) With less choice as to the mode of travel during peak periods, it is important to provide transit alternatives for auto users if the overall quality of transportation service is not to deteriorate substantially.
- (iv) The auto will continue to provide for a wide variety of off-peak trips in the year 2000, and should be viewed as a complement to transit. There is no evidence to indicate that it would be desirable or likely that the car will disappear, and transportation planning must continue to take into account both auto and transit requirements.

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